WESTERN HARBOURS (IRELAND).

RETURN to an Order of the Honourable The House of Commons, dated 12 November 1852;—*for*,

A COPY "of the REPORT and the EVIDENCE taken before the Commission appointed to Inquire into the Merits of the WESTERN HARBOURS of *Ireland*, for the Purpose of TRANSATLANTIC COMMUNICATION."

Admiralty, 22 November 1852.

J. H. HAY, Chief Clerk.

(*Mr. Henry Herbert.*)

Ordered, by The House of Commons, *to be Printed*, 24 *November* 1852.

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COPY of the REPORT and the EVIDENCE taken before the Commission appointed to inquire into the Merits of the WESTERN HARBOURS of *Ireland*, for the Purpose of TRANSATLANTIC COMMUNICATION. Report.

— No. I. —

INSTRUCTIONS.

Sir, Admiralty, 11 June 1852.

MY Lords Commissioners of the Admiralty being desirous to obtain the best information as to the suitableness of Galway Bay and the River Shannon for a Transatlantic Packet Station, and as to the relative merits of these ports, whether considered as a packet station or as a harbour of refuge, it is their Lordships' directions that you proceed with the officers named in the margin, and forthwith examine into the several capabilities of those harbours. Capt. H. Smith. Capt. Caffin.

A Commission was appointed, in 1850, by Her Majesty's Government to make inquiry as to the harbours of Ireland best suited for a packet station. The evidence taken on that occasion respecting the ports of Galway and the mouth of the Shannon, (to which they gave a decided preference over all other ports on the west coast of Ireland,) furnish valuable material, and may be of service in directing you to those sources of information to which you might wish to refer in verification of the reports concerning them. The intimate knowledge you possess, as a seaman, of all that is required for a convenient port, whether for access, departure, or safe and convenient anchorage, and your experience more particularly in the command of steam vessels, render it unnecessary for their Lordships to encumber you with minute instructions as to the several points to which your attention would have to be directed in order to determine on the merits of a particular harbour as a packet station.

In conducting your inquiries, you will bear in mind that the port to be selected would require to be available for steamers of the largest class employed on a service requiring the greatest regularity and dispatch; and that, so far as regards the combining a refuge harbour with a packet station, such harbour should be accessible at all times of tide, both by day and night, and in all weathers.

As it is scarcely to be supposed that at the ports to which we have directed your attention such works can at present exist as would be essential to a Transatlantic Packet Station, and important even as a harbour of refuge, you will carefully examine into this point, and report as to the nature and extent of any works which would be required for either of these purposes at the two ports respectively, and in that report you will include the works necessary to connect either port with the nearest railway.

Any other points, not here adverted to, and which during the examination may strike you as essentially bearing on the question of a western packet station and refuge harbour, and their necessary engineering works, and which it would seem to you as deserving particular remark, will be included by you in your report as to the general merits as a packet station and a harbour of refuge of the two ports of Galway and the Shannon.

I am, &c.

Captain Beechey, R.N., &c.
Board of Trade.

(signed) *W. A. B. Hamilton.*

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— No. II. —

LETTER from Captain *Beechey*.

Sir, London, 31 July 1852.

I HAVE the honour to inform you, for the information of the Lords Commissioners of the Admiralty, that in accordance with their Lordships' instructions, conveyed to me in your letter of the 11th June last, I proceeded with Captain Smith, R. N., and Captain Caffin, R. N., to Galway and Limerick, and there carefully examined witnesses, and procured information upon the several points submitted in your letter; viz.

1st. As to the relative merits of the port of Galway and the Shannon whether considered as a packet station or as a harbour of refuge, and as regards the combining a refuge harbour with a packet station, such harbour being necessarily accessible at all times of tide, both by day and night, and in all weather.

2dly. As to the nature and extent of any works which would be required for either a Transatlantic Packet Station or a barbour of refuge at the two ports respectively, and as to the works that would be necessary to connect either port with the nearest railway.

3dly. As to the suitableness of Galway Bay and the River Shannon for a Transatlantic Packet Station, taking into consideration that the port to be selected would require to be available for steamers of the largest class, employed on a service requiring the greatest regularity and dispatch.

At Galway we obtained from the Harbour Commissioners and other authorities a list of such witnesses as they could recommend as capable of giving evidence upon the nautical advantages or disadvantages of the harbours of Galway and Limerick, the two ports to which our attention had been directed, and having inspected the port as to the nature and extent of the works that would be necessary, and exhausted all the evidence at Galway, we proceeded by sea to the Shannon in Her Majesty's steam sloop "Geyser," which enabled us to examine the approaches and soundings off both ports. At Limerick, in the same manner, we examined such evidence as the Harbour Commissioners and Chamber of Commerce and other authorities furnished, and with the aid of a small steamer examined the harbours of Foynes and Tarbert.

From Limerick we returned to Dublin by railway.

At both ports we received from the Harbour Commissioners and other local authorities the greatest attention and assistance.

I beg to enclose copies of all the evidence and other documents bearing upon our inquiry, and also the report which we have founded upon this evidence, in connexion with that taken before the late Transatlantic Packet Commission, and to request that you will be pleased to lay the same before the Lords Commissioners of the Admiralty.

I have, &c.
(signed) *F. W. Beechey*,
Captain.

To the Secretary of the Admiralty.

— No. III. —

REPORT of the Committee appointed to inquire into the Suitableness and Capabilities of the Ports of *Galway* and the *Shannon* for a Transatlantic Packet Station in connexion with a Harbour of Refuge.

PURSUANT to the instructions contained in your letter of 11 June 1852, we have the honour to transmit, for the information of the Lords Commissioners of the Admiralty, our report as to the relative merits of the ports of Galway and the Shannon for a Transatlantic Packet Station available for steamers of the largest class employed on a service requiring the greatest regularity and dispatch.

In the selection of a port for this purpose, especially upon a naturally boisterous coast, so much depends upon the comparative safety and expedition with

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with which a vessel when arriving can be got within the limits of her port, or, when clear of her anchorage, on departure, can be got out to sea clear of the land on either side of her, that we have entered upon a comparison of the merits of the two ports above mentioned, with a view to this important feature; first, the entrance of the Shannon, situated only 32 miles from the outer horn of the Great Bay, formed between the Blaskets and Slyne Head, and having, from the Blaskets on one side, and for a distance of about 15 miles on the other, a bold precipitous coast, which may be safely approached at any time when it would be prudent to run for a port at all, and above all, having that part of the coast on the west lying in such a direction as to form a natural protection from the southerly and south-westerly gales, so formidable from the thick weather which attends them, are circumstances that peculiarly render the situation of the Shannon preferable to that of the port of Galway;* for it must be evident that when gales are blowing from the south-west, and when the coast is enveloped in mist, the danger of approaching the land is greatly diminished by the comparatively smooth water which would be found at such a time between the Shannon and the Blaskets, as compared with that which would occur upon a coast opposed to the full force of the gale; moreover, when this portion of the coast becomes a lee shore, the wind is from the north-west, a quarter in which the gales are generally accompanied by clear weather, and when the port may, under such circumstances, be safely approached.

Galway, on the other hand, with the exception of the last-mentioned feature of being safely run for, does not possess any of the other advantages, for although the Arran Islands are bold and high, yet if an attemnt were made to hug the shore on either side of the actual limits of the mouth of the port, for the purpose of shelter, or if it were attempted to make the land in either of those directions, it would be at the risk of encountering the dangers of Mal Bay on one side, and of the Skuds and other rocks on the other, dangers which present themselves in their worst form, viz., of reefs and isolated rocks surrounded by deep water.

Much has been said by some of the witnesses at Galway of the character of the soundings off that port, by which the position of a vessel might be determined; but on referring to the Admiralty surveys, we do not discover any such marked distinctions as would warrant a ship running by them in thick weather. The same may be said of the outer approach to the Shannon; but when once entered between Kerry and Loop Heads, the gradual shoaling of the water there would form a safe guide to the entrance of that river.

Galway, it is true, has no tides of consequence, and so far it has the advantage of the Shannon. To small deeply-laden vessels especially this would give Galway great claims to preference, and it is, we apprehend, with reference to this feature that a preference has been given to Galway by some of the witnesses who alluded to the strong tides of the Shannon, but to vessels of the class and speed of those required for the packets in question, the stream of the Shannon does not, in the opinion of the Committee, constitute an objection of any moment, nor do we apprehend that any inconvenience would be felt by such vessels from the high seas said to arise at the mouth of the Shannon from spring tides when running in opposition to westerly winds.

In point of situation, therefore, we give a decided preference to the Shannon.

As regards the security and accommodation of the packets, and the convenience for landing and embarking passengers and dispatching the mails, we find that neither of these ports can be said to be adapted to these services at present. Galway Roads, although perfectly safe for a vessel to ride at her anchors, if properly found in ground tackling, is not sufficiently protected from the sea to be recommended as a place where passengers can at all times be safely or conveniently embarked or disembarked, and cargo taken in and discharged; and there is no basin there sufficiently capacious, either in its depth of entrance, or width of its gates, to receive the vessels that would be required for this purpose.

In the Shannon there are two places, Foynes and Tarbert, either of which afford

* *See* Plan, No. 1, at the end.

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afford secure anchorage at all times, but in their present state neither of them have the landing accommodation that is requisite for the purpose. Foynes, although contracted for such large steamers as are considered necessary for this service, will, we think, be found sufficiently large, with proper accommodation, to recommend it to the attention of their Lordships from the very limited works which will he required there. The entrance hetween the depths of water required by these vessels, although narrow, is of sufficient width for the purposes of the packets, as it has the advantage of always having smooth water, and lights can readily he placed in positions to afford the requisite guide to the pier at night, or in thick weather.

Tarbert, although a very secure anchorage for shipping, is too exposed in that part of the roadstead which would require to be frequented hy vessels of large draught of water, both for passengers to be embarked and landed in all weathers, and for the purpose of refitting and loading and discharging of the packets, and would require heavier works to be constructed for these purposes than we have considered necessary at Foynes. But with these works, which will be particularly described in advance, we consider that Tarbert would be both a convenient and safe station.

After carefully considering the deficiencies of these places respectively, we have determined that to render Galway Roads secure and suitable for a packet station, large and extensive works would be required. It would be necessary to protect the anchorage by a strong pier run off from Mutton Island to the south-south-east to a distance of 2,500 feet nearly,* and to fill up the space between that island and the main; and a basin would still further be necessary to ensure protection to the packets in the winter months, and when requiring a refit. As the railway would have to be carried along these piers to the packet outside Mutton Island, the masonry would require to be dressed, and considerable expense would he incurred in the construction of these works and the basin. It has been suggested that a more convenient accommodation would be afforded hy a pier run off from Hare Island.

This pier would also be more convenient for the railway than the other; it would obviate the necessity for a basin; and although the outer piers from Mutton Island above mentioned would still be required, they would only be necessary as breakwaters, and considerable saving in their construction would thus be effected; but the expense of these works would be so considerable, that we could not recommend their construction, unless it should be found that such saving would be effected upon the extension of the railway through the town and across the river Corrib, and upon the basin, which in this case would not be required and in the construction of the outer piers also, as would compensate for the outlay. In addition to these works, it would he necessary to place a lighthouse upon the Black Rock, another upon the Finnis Rock in the South Channel, and to remove the Mutton Island light to the end of the proposed pier from that island.

In order to assist us in reporting upon this part of the inquiry, which came more immediately under the department of civil engineers, we requested Mr. Roberts, the district engineer of the Board of Works, to furnish the Committee with his opinion as to what would he the expense of constructing certain works submitted to him, and also to give his own opinion as to what he would consider necessary for the purpose in view.

His reply will be found in page 12, from which it appears that the works which the Committee considered necessary could not be executed under a sum of 227,600 *l.*, and judging from the expense of these limited works, it is computed that the more complete plan before mentioned could not be carried out under double that sum.

Mr Roberts, in his reply, proposed a plan, coloured red, † which he thought would afford the required security, the expense of which he estimated at 155,600 *l.*, including the basin; but after mature consideration of the last-mentioned plan we were of opinion it did not give that accommodation to the service which was necessary, and moreover, it seemed probable, from its form and position, that it would silt up from the outset of the water from Lough Corrib.

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* *See* Plan, No. 2. † *See* Plan, No. 3.

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Corrih. We have therefore come to the conclusion that, to adapt Galway to a Transatlantic Packet Station, * it would require at the lowest estimate, based upon Mr Roberts's Report, a sum of about 230,000 *l.* †

To adapt Foynes in the Shannon to the purposes required, it will he necessary to construct a pier or jetty near the present small harbour formed there, keeping its outer face in 20 feet water at low water spring tides, to run out a small ruhble breakwater from south-east side of Foynes Island ‡ to insure smooth water at all times at this pier, and to place lights upon the points of entrance, and also a floating light upon the outer limit of the tongue off Scattery Island. With these works the Shannon might be navigated at all times, and Foynes be made available for the packets.

To assist us in these engineering questions again we consulted Mr. Griffith, of the Board of Works, Duhlin, and Mr J. Long, the district engineer, at Limerick, both of whose replies we have placed in the Appendix (pp. 37. 56). Mr. Griffith in reply, forwarded a plan § which had heen sent him hy Mr. Gibbons, harhour engineer, in whicb he proposes to prolong the present Eastern pier of the small harbour into 22 feet water of the chart, and to extend its front laterally to the eastward to 150 feet in the whole. The estimate for this extension and filling in at the hack, as shown in the plan, ‖ be considers will he about 3,600 *l.*

Mr. Long suhmitted a plan of a pier on the western side of the small harhour, and a groyne from the Island of Foynes, ¶ and estimated the expense of these works ahout 45,000 *l.* * *

Another plan for the adaptation of Foynes was suhmitted hy Mr. Randall, the harhour master of Limerick. † †

Giving these plans full consideration, we have come to tbe conclusion that, hy an extension of the pier proposed hy Mr. Gihbons, so as to give 800 lineal feet clear space of wharfage (of which 650 feet hy 50 feet wide, would be in addition to his proposed plan), would afford all the required accommodation for a single line of weekly packets; ‡‡ and that a small breakwater or groyne run off from the east end of Foynes Island would insure smooth water at all times to the packets lying at this pier.

Under the impression that this port will be found very limited, should an increase of traffic take place, we refrain from recommending the construction of any works not ahsolutely necessary, and more especially any of a costly nature.

The expenses of the plan proposed by the Committee, taking Mr. Gibhons's estimate of his work as a guide, and Mr. Long's estimate of the groyne, would he somewhere about 12,000 *l.* or 13,000 *l.*, independent of the staging to the westward of the small harhour. §§

With reference to the connexion of Foynes with the Limerick Railway to Duhlin, it will he seen hy the evidence of Sir Matthew Barrington, tbat there are no engineering difficulties, and that a company would no douht be formed to carry into execution a line of way which has been already surveyed, and the plans lodged in the Parliamentary Office in London.

In this statement we find the distance to be ahout 24 statute miles, and by the estimate of Mr. Kearney, the contractor, it is shown that the cost of constructing a single line would he ahout 4,011 *l.* per mile, ‖‖ making about 96,300 *l.* for the line of railway from Foynes Harhour to Limerick.

It has also heen suhmitted to us ¶¶ that an electric telegraph might he carried from Foynes to Kerry Head, which would extend the communication with the packet as far as the 10½ degree of west longitude, or if carried to Brandon Head, to the 11 degree, and this at the cost of ahout 30 *l.* per mile.

Tarbert, the other port in the Shannon, which we have mentioned as capable of heing rendered suitahle for a packet station, would require a hasin to he constructed

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* *See* Plan, No. 3.

† Independent of the extension of the railway or any other works alluded to in p. 8.

‡ *See* Plan, No. 4. § *See* Plan, No. 5. ‖ *See* Appendix, p. 37.

¶ *See* Plan, No. 6. * * *See* his evidence, p. 55. †† *See* his evidence, p. 44.

‡‡ In the Plan, No. 4, we have drawn an additional line of staging to the westward of the small harbour, in case it might be required hereafter.

§§ This estimate is also independent for the expense of the extension of the railway from Limerick, 96,300 *l.*, and also of the works mentioned in p 8.

‖‖ *See* Plans, &c.; also statement of Mr. Kearney, p. 60.

¶¶ *See* Report of Harbour Commissioners of Limerick; also Mr. Long's evidence, p. 55.

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constructed for the reception of the packets when refitting, or taking in or discharging cargo, and in addition a pile staging or pier as a temporary place to land and embark passengers and mails.*

With these additions Tarbert would be rendered a safe and convenient station, and would possess the advantage of Foynes in having capabilities of extension of its works, should the exigencies of the port at any time require it.

With reference to the Port of Tarbert, we submitted to Mr. Long, the district engineer, the works, which, as before mentioned, would in our opinion be necessary for the requirements of the packets, and requested him to supply a plan and estimate of the cost of constructing such works. In reply we received from him the following remarks: †

"As regards Tarbert, the same advantages do not exist as at Foynes; it is more extensive, but not so well sheltered, which would therefore render it necessary to construct works of a more extensive character, and as the facilities for building are not so easily obtained there, the works would be more costly; it is however a most excellent and favourite anchorage, and to render it available for the purposes of a Transatlantic Packet Station, I am of opinion that a floating dock, accessible at low water neaps, for vessels of 20 feet draught, would be necessary, together with a timber staging, accessible by such vessels at all times of tide."

The cost of the floating dock he estimated at about 55,000 *l.*, and the staging 20,000 *l.*, making a total of 75,000 *l.* ‡

To connect this port with the railway at Limerick, we again refer to the plans and sections of the railway already lodged in the Parliamentary Office, and by an estimate submitted by Mr. Kearney, it appears that a single line can be carried through from Limerick, at 4,011 *l.* per mile, making upon the whole 136,388 *l.*, the distance from Tarbert to Limerick being 34 miles.

While our report was in progress, we received a communication from Mr. Stokes, the county surveyor of Kerry, enclosing a resolution of the grand jury of the county of Kerry § to erect a pier at Tarbert, for the accommodation of large sea-going steamers, and enclosing a plan ‖ and estimate of the work.

Upon an examination of this plan, it was found the pier could only have 17 feet water alongside of it at low water, which would not be sufficient for the class of vessels required for the packet service; also its form appeared objectionable, inasmuch as it was open to the south-east wind, which would render it very inconvenient for vessels lying alongside it at such times.

The expense of the construction of this pier was estimated at 10,300 *l.*

In the evidence of Mr. FitzGerald it will be seen that he proposes, in the event of a station being at Tarbert, the construction of a line of railway direct from Tarbert to Tipperary, and describes the advantages it would possess over the other line to Limerick, but the Committee do not consider this to be a matter which is intended to be brought under their consideration, further than it shows there would probably be no difficulty in connecting Tarbert either way with the great line of railway through Ireland. It is to be observed that Tarbert would partake of the same advantage of distant communication with the packets, by means of electric telegraph, as Foynes.

With reference to the ports of the Shannon, we have to remark that they possess the advantage of having a capacious basin at Limerick, ¶ adjoining the river, sufficiently wide and deep at its entrance to receive the class of packets required at high water, at all times, when needing repair; and that the Harbour Commissioners have ordered the removal of some small obstructions, which might possibly prevent impediments to the passage of such large steamers up the river at low tides, and have undertaken to maintain a depth of water * * throughout of six feet at the low-water standard of the chart constructed by the late Commander Wolfe, R. N.

We beg to observe, that, besides the works shown to be requisite at the three different ports, it will be necessary to take into consideration, at all the places, the buildings which will be required for storing, warehousing, repairing, machinery,

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* *See* Plan, No. 7.
† *See* his Report, p. 55.
‡ *See* Plan, No. 8.
§ *See* Appendix, p. 39.
‖ *See* Plan, No. 9.
¶ *See* Mr. Long's evidence, p. 54.
** *See* their Letter, p. 62.

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machinery, &c. &c., and other purposes of the station, should any one of them at any time be selected for this purpose.

With respect to a harbour of refuge in connexion with the packet station, either of the ports of Galway or Shannon may be considered as such in their present state to any vessel properly found in anchors and cables. But to such as may have lost their ground tackling, or cannot depend upon it, the Shannon is to be preferred, as there are several places where a vessel may be safely run upon the mud, or she might run up the river, as a pilot would always be found in Carrigaholt Roads.

But to render the entrance of these places perfectly safe at night, it will be necessary to place the light, now on Arran Island, at the extreme point of the island which forms the entrance to the north channel of Galway Bay, to erect a light on the Finnis Rock in the south channel, and also to put a light on the Black Rock; and to render the Shannon efficient, a floating light should be placed on the tongue off Scattery Island.

Lastly, as to the suitableness of either of these ports for a Transatlantic Packet Station, requiring, as their Lordships have stated, the greatest regularity and dispatch, and to be accessible at all times of tide, both by day and night, and in all weathers.

We have bestowed much time and care in the collection of evidence which would serve to guide us in a question of so much importance and difficulty, and we regret to find that the additional evidence on this subject to that which has been already published in the Report of the late Commission, is of a less satisfactory character than we could have desired. Taken, however, in connexion with the mass of evidence before mentioned, we have to report as follows:—In the evidence taken before the late Commission we find, in page 11, it stated, that, "It appears from the evidence of the majority of the naval officers who have been referred to, that the navigation of the West Coast of Ireland is dangerous, particularly in the winter.

"The coast from the Mizen Head to Galway is, in nautical language, steep to, there being 100 fathoms of water at 18 or 20 miles off its outlying dangers. It is also subject to fogs and hazy weather, and to frequent gales of wind blowing towards a lee shore, with high Atlantic seas, and very uncertain soundings."

And in the evidence of some of the most intelligent witnesses who have come before us, it will be seen that the facts here mentioned are in a great measure confirmed, so as to leave but little doubt that the West Coast of Ireland, which first receives the brunt of the westerly gales from the Atlantic, and which presents a line of coast immediately opposed to the prevailing wind, is subject to higher seas and worse weather than other parts of the British Islands not so situated, and that weather in which no vessel would be justified in running for a port, does appear to prevail to a greater extent off the western ports of Ireland than at other ports.

Under these circumstances we do not feel ourselves justified in recommending either of these ports as suitable to a service requiring the greatest regularity and dispatch, and under the necessity of being run for in all weathers, by day and night, being of opinion that if the required regularity were enforced it would be at a considerable risk; and in the event of any derangement to machinery, such as has occurred to the mail packets, this risk would be proportionably increased.

In favour of these ports it has been asserted that there is less chance of irregularity in the delivery of the mails from the precaution necessary to be observed at present in going up Channel to avoid collisions; whilst on the other hand it is thought that in the route to the Channel thick weather occasions less delay in making a landfall from the advantages which are presented by the various opportunities of hauling in for the land at some favourable moment, whilst running along it between Cape Clear and the Tuskar; whereas all this would be absolute delay on the route to the western coast, from the direction of the land lying at right angles with the vessel's course.

In these opinions, however, we regret to have to state that there is a want of unanimity in the Committee; one of its members thinking it probable that, although admitting the boisterous nature of the coast before mentioned, yet taking all things into consideration, the service would nevertheless be carried out at the Shannon with the same regularity, and with not greater risk, than

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it would be if the station were at Liverpool, as at present, or at Holyhead, if completed.

Having now given the relative merits of the ports of the Shannon and Galway, and reported upon the works which we consider will be necessary to adapt them to packet stations for the large class of vessels which is considered necessary for this service, we beg to repeat that we have given a preference to the Shannon over the port of Galway, from the advantage it has in point of situation, and consequently of ready ingress and egress of the port, and the comparative safety with which the land may be made in cases of uncertainty of position, and also from the very small expense which would be necessary to adapt either of the two places mentioned in that river to the requirements of a packet station.

Of the two places in the Shannon which we have named as being either of them capable of adaptation to the service, we have given a preference to Foynes over Tarbert, on account of the natural shelter which is already afforded there, and of the readiness with which it may be adapted to the service; also on account of its being out of the way of vessels navigating the Shannon.

Tarbert Road is well known as the great stopping place for the trade of this river to Limerick, and the resort of vessels taking shelter from sea in bad weather; and an inconvenience might occasionally arise on this account. It would besides require a great outlay of money as compared with what would be necessary at Foynes, we therefore consider it would be desirable, in the event of a station being determined at either of the two ports of Galway or the Shannon, to adapt Foynes to the purpose; but it is the opinion of the majority of the Committee that neither of the ports of Galway or the Shannon are suitable to a service requiring the greatest regularity and dispatch; as from the nature of the coast, the prevailing winds and weather, and high seas, frequent delays both for daylight and for the weather to clear, will cause interruption in the winter months, especially to the regular arrival of the packets, although we do not think it will interfere much with their regular departure.

As regards a harbour of refuge in connexion with a packet station, either of the ports of Galway or the Shannon can be made efficient by the arrangement of lighthouses, which we have already mentioned in page 9.

The rough estimate of the expenses which will be incurred in adapting these ports respectively to the requirements of a packet station, based upon the Reports of Mr. Roberts, Mr. Gibbons, and Mr. Long, &c., which are placed in the Appendix, and are wholly independent of the buildings, &c. referred to in page 8, will be—

Galway, for a pier and basin, say - - -	230,000 *l.*
Tarbert, for a pier and basin, say - - -	75,000 *l.*
Foynes, for a pier and small breakwater, say -	13,000 *l.*

and to connect these ports with the lines of railway at present constructed in connexion with Dublin, will require the additional sums—

For Foynes - - - - -	96,000 *l.*
For Tarbert - - - - -	137,000 *l.*

At Galway there is already a line to Dublin, but there will be some additional expense in extending the line from the present terminus to the pier, for which there are no plans, and we have no estimate, but as it will have to cross the stream from Lough Corrib it will be of consequence.

In the event of either of the ports being selected as a station, it will be proper to place a light upon the Foze Rock, off the Blaskets. In the evidence taken at Limerick, it will be seen by the masters of vessels trading from thence to America, and round Cape Clear to the eastward, that they would prefer a light upon this rock, even it were to be the occasion of the removal of the light at present upon the Skelligs.

We have, &c.

(signed) *F. W. Beechey*, Captain.
Henry Smith, (*b*) Captain.
J. Crawford Caffin, Captain.

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APPENDIX.

GALWAY.

— No. 1. —

LETTER from Rev. *Peter Daly*.

Sir, 23 June 1852.

I HAVE the honour, agreeable to your desire, to send you the names of some witnesses whom the Harbour Commissioners submit for examination before the Committee.

I am, &c.

Capt. Beechey, R. N. (signed) *Peter Daly*, Chairman.

LIST of Persons to give Evidence before the Committee.

Capt. Thomas King, of the "Lord Fitzgerald and Vesci."
Capt. John M'Donough, of the "Eleutheria," of London.
Mr. Joseph Evans, master pilot.
Mr. Edmund Duffy.
Mr. John Quinn, on the Admiralty Survey with Capt. Bedford.
Capt. Cosulich, of the Austrian barque "Kalk," now at the roadstead of Galway.
Samuel U. Roberts, C.E., district engineer under the Board of Works.
William Coen, a Maltese, now at the roadstead.
Capt. Williams, of the "Rhoda" of Milford, now in dock.

ADDITIONAL WITNESSES submitted 24 June.

Bartholomew Oliver, master of vessel.
Augustin York, master of vessel.
Capt. Emico Leva Andri, now in dock.
G. W. Heman, Esq., C. E. M., Great Western Railway.
Christopher York, contractor for supplying materials for public works, Long Walk, Galway.
James Stephens, Esq., Merchants'-road.

(signed) *Peter Daly*, Chairman.

— No. 2. —

LETTER from Rev. *Peter Daly*.

Sir, Galway Harbour Commissioner's Office, 21 June 1852.

I AM requested by this Board to express the anxious wish of the Commissioners that the inquiry relative to the capabilities of this port entrusted to you and the other gentlemen of the Committee, should be conducted as that they may be present at the examination of the witnesses who will give testimony before your tribunal. It is manifest that formal queries will not elicit all the information so desirable upon this important inquiry, and that many questions affecting the vital interests of this port would be suggested by the Harbour Commissioners, who feel the importance of the inquiry to be such that they would not feel it would be otherwise satisfactory. Your kind reply will be anxiously looked for.

I have, &c.

(signed) *Peter Daly*, Chairman.

Galway Harbour Commissioners, 26 June 1852.

Resolved, THAT if the committee feel the evidence already offered has enabled them to form a correct judgment on the points of their inquiry, the Harbour Commissioners have no wish to protract their labours by sending up other witnesses, and suggesting respectfully, that when examining the bay and its approaches as proposed, in the "Geyser," the Committee would not pass by the various safety harbours which in the course of the inquiry have been mentioned. The Harbour Commissioners leave the case in their hands, requesting, however, that if in the course of their examinations anything should appear to alter their opinion, the Harbour Commissioners may have an opportunity of supplying other evidence after the return of the Committee to London.

(signed) *John D'Arcy*, Secretary.

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— No. 3. —

LETTER from Rev. *Peter Daly*.

Resolved, THAT our chairman, Anthony O'Flaherty, and P. M. Lynch he deputed to wait on the Committee to tender the co-operation of the Harbour Commissioners in attaining the object of the Commissioners, and arrange with them the way in which the case of Galway may be made out with advantage.

Proposed by James Browne, Esq., seconded by James Fynn, Esq., and carried unanimously.

22 June 1852. (signed) *Peter Daly*, Chairman.
Board Room, Harbour Commission.

— No. 4. —

MEMORANDUM for the Packet Station Committee.

Points on which the Packet Station Committee require information.

"A steam packet station will require: No. 1, A pier protected from all sea at which a steamer could lie at all times to embark and land her passengers; she would be about 300 feet long, and draw 20 to 22 feet water when loaded."

Nos. 2 and 3. "A dry dock on which such a steamer could be docked, and have her bottom examined.

"A basin to receive such a steamer to load and unload cargo, take in coals, refit, and lie out of the way of ships in the anchorage; it should admit of these vessels going out when deep, say drawing 20 to 22 feet water."

No. 4. "A pier of that description in No. 1, to be run off from the south end of Mutton Island, say 2,500 feet from high-water mark, rubble on the outside, and faced on the inside. The present lighthouse on Mutton Island to be removed to the end of the pier."

No. 5. "Means of repairing machinery and boilers of steamers."

No. 6. "A lighthouse on the Black Rock."

I HAVE marked upon the enclosed tracing the site which I think best suited for a pier at which Transatlantic steamers could lie at all times to embark and land passengers.

I am of opinion that this pier (as marked in red upon the annexed tracing) should extend in a southerly direction from Mutton Island for a distance of 500 feet from low-water mark; that the landing quay should be 700 feet in length, extending in an easterly direction, with a projecting head 200 feet in length to afford additional shelter. This, I conceive, would afford a safe landing place at all times, and the cost of construction I estimate at 65,000 *l.*

A basin and graving dock can be constructed on the eastern side of Mutton Island, on the site shown on tracing, in every respect suitable for transatlantic vessels. I have not been able to enter into the detail of the cost of this work, but am of opinion that a sum of 40,000 *l.* would be sufficient for the purpose.

I estimate the expense of this pier and the removal of the lighthouse at 137,000 *l.*

I annex a memorandum written sometime since for a friend of mine, relative to the means at present existing in Galway for the execution of iron-work, by which it will appear that no very adequate means exist for effecting any heavy repairs of the nature referred to; there is, however, no doubt but that immediately upon the necessity arising for such, either the present foundry masters or others would be found of sufficient enterprise to establish foundries and boiler factories suited to the transatlantic steamer requirements.

I have never examined the Black Rock, and cannot state what the expense would be of constructing a lighthouse upon it, but I believe no difficulty would be experienced in executing such a work.

Stone suited for the construction of the quays and docks referred to can be procured close to Galway of any size required, and upon most moderate terms, and peculiar facilities exist for the execution of masonry; sand and lime are on the spot, and the Galway masons have long been noted for their skill and efficiency.

The quay walls in the Lough Corrib navigation have been built at the following prices, including all materials:

Ashlar facing, per cubic yard - - -	18 *s.*
Rubble hacking - - - - -	4 *s.* 8 *d.*

I wish it to be borne in mind that in replying to the queries put to me, I have assumed that in the first instance a breakwater or mole would be constructed from the land to Mutton Island, as I have shown on plan; I estimate the expense of this breakwater at 50,600 *l.*, and am of opinion that it ought to be of such a massive character as to afford good shelter from westerly gales to the roadstead lying eastward of it.

Galway, 15 July 1852. (signed) *Samuel U. Roberts*, C. E.

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— No. 5. —

MEMORANDUM of Means at present Existing in *Galway* for Repairs of Steamers, &c.

THERE are three foundries in Galway; one, situated at the new dock, is the property of Mr. James Stephens, and is in a most convenient situation for effecting the repairs of steamers in the docks, but no water-power is available at its site. Some very heavy castings have been made in this foundry, but the proprietor has had no experience in the steam-engine or boiler-making line.

The second foundry is a small establishment, at which but a limited amount of work is executed. It is conveniently situated near the docks, and admits of extension.

The third foundry is situated in Cross-street, a very inconvenient and bad position in the heart of the town; the proprietors, Griffin & Brothers, intend to change their establishment, whenever there is a prospect of remunerative trade, to a site where water-power can be obtained for driving their machinery, by which means they will be enabled to execute heavy work at reasonable prices. The Griffins are millwrights who have had much experience in mill-work, but not in the steam-engine or boiler-making line. I employed this firm to make and erect the water-wheel and machinery at Newcastle, which work they have executed at very moderate prices, in a most workmanlike and satisfactory manner.

There is no punching, cutting, or planing machinery in any of these establishments.

Large steamers always carry duplicates of such portions of the engines as are most liable to be broken or to get out of order, and such parts could be fitted to their places by the millwrights at present employed in either of the foundries, under the superintendence of the head engineer belonging to such steamers. I am not aware that either of the foundry masters or their men have ever been engaged in erecting or even repairing the engines or machinery of large steamers, but this want of experience on their part might easily be obviated by their getting an experienced foreman or manager, and a small outlay would suffice to render either of the foundries sufficient for any repairs such machinery might require.

There is no boiler-maker's establishment in Galway, but that branch requires so little capital to commence, that it might be very easily attached to either foundry.

I think there is very reasonable grounds for supposing that if large steamers frequented the port, preparations would be immediately made for effecting any repairs that might be required.

As to the means available for repairing vessels, rigging, sails, &c., I have to state that the ships trading between Galway and America have always been repaired in Galway. A shipwright who built a large barge for me is at present engaged in the old dock in putting in a new keel, false keel and stern in a large foreign vessel which was bound for Limerick, but wrecked off Arran.

The Messrs. Murray of Galway have just built and fitted out in Galway a vessel of 200 tons burthen.

There are several rope manufactories and sail-making establishments.

It is, I understand, the intention of the railway company to have an establishment at Galway, with workshops adequate for the repairs of the engines and carriages.

I have not the slightest doubt but that if the establishments which I have described as existing in Galway, were found incompetent for the necessary repairs of steamers and their machinery, that the deficiency would be made up by the private enterprize of other parties.

15 July 1852. *S. U. R.*

— No. 6. —

EVIDENCE TAKEN AT GALWAY.

QUESTIONS.

1. What is your name and occupation?

2. What has been your experience on the west coast of Ireland?

3. Are you acquainted with the ports of Galway and the Shannon?

4. Have you made either the port of Galway or the Shannon in thick weather, when coming from sea; if so, how often?

5. Would you in a steamer drawing 19 ½ feet water, run for either Galway Bay or the Shannon in thick weather, not having had observations for a day or two previous, trusting to the deep-sea soundings?

6. Is the Bay of Galway or the Shannon of such a nature that you would run for them in clear weather either by day or night, in a steamer, without having made any previous landfall?

7. Are the soundings off either the Bay of Galway or the Shannon a sufficient guide to those ports in thick weather; and if so, can you state the peculiarities of the soundings?

8. Can you state the depths of water at 5, 10, 20, 30, 40 and 50 miles seaward, giving the nature of the bottom and position of such soundings?

9. Are

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Appendix.

9. Are you acquainted with the set of the tides off the western coast of Ireland; if so, state how they run, and whether they would be likely to throw a ship out of her course in making the land, to those who were acquainted with the Shannon, more particularly at the mouth of the Shannon?

10. If you were off the coast with a westerly gale and thick weather, and had to run for a port, which port would you prefer making, Galway or the Shannon?

11. Have you ever known any vessel obliged to keep the sea or run for other ports, in preference to Galway or the Shannon, on account of bad weather?

12. Do you think it would be safe for a steamer 290 feet long, to heave-to for soundings on this coast, in a gale of wind from the westward?

13. Would you depend upon the soundings obtained under these circumstances?

14. Are there any good landmarks about either Galway or the Shannon, by which you would be certain to distinguish the situation of either of these ports, and which do you think the most remarkable?

15. Have you ever run for Galway Roads or the Shannon, in a gale of wind blowing right in?

16. If you were in command of a steamer drawing 19 ½ feet, having passed the Arran Islands or the Blaskets, would you have any hesitation to run for Galway Roads or the Shannon in a gale of wind blowing right in, at night or in thick weather?

17. Is the holding ground good in Galway Roads?

18. Have you ever known vessels drive in the roadstead of Galway?

19. Do the gales blow home to the roadstead of Galway?

20. Does the heavy sea or swell in westerly gales of wind come home to Galway Roadstead?

21. Is there much sea or swell inside of Mutton Island under such circumstances?

22. Is the roadstead of Galway safe for a steamer of 19 ½ feet water and 290 feet long, to lie at anchor during all times of tide and in all weathers; if not, could any practicable arrangement of piers make it so?

23. Do you know any part of Galway Bay that could be more easily made available for a packet station than Galway Roads?

24. Could a steamer drawing 19 ½ feet go to sea with safety in all weathers?

25. In the present state of Galway Roadstead, could steamers drawing 19 ½ feet embark or disembark passengers and mails in any weather; if not, what practicable arrangements could be made to render it so?

26. What is the usual character of the weather in summer on the west coast of Ireland, and what in the winter?

27. Does thick and misty weather often occur on the western coast of Ireland, and do they accompany the gales?

28. Are fogs of frequent occurrence?

29. With what wind does the misty weather mostly prevail?

30. Can you state the prevailing winds at the different seasons of the year?

31. What wind sends the heaviest sea into Galway Roads, and into the Shannon?

32. Is the sea heavy outside the Arran Islands, and between the Blaskets and Slyne Head, and does it usually precede the gales?

33. Is the sea heavy in gales of wind, between the Arran Islands and Mutton Island, and between Loop Head and Brandon Head?

34. Which do you consider the safest of the Arran Channels to run through in bad weather?

35. Have you been at sea on this coast during the winter months; if so, state your experience of the weather and the sea?

36. Do the gales which arise on this coast blow with violence, and do they last long?

37. From your experience on this coast during the winter months, do you think that the wind and sea and dark misty nights, in heavy gales, would be likely to prevent the regularity of the arrival and departure of the mails, supposing either the ports of Galway or the Shannon was made a packet station?

38. Do you know any objection to making Galway or the Shannon a packet station?

39. If a vessel was embayed between Slyne Head and the Blaskets, which would be the safest port to run for, Galway or the Shannon, supposing she could reach either, having no pilot on board?

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ANSWERS TO QUESTIONS.

No. 1.—Answers, 22/23 June 1852.

1. Timothy Kelly, commanding revenue cutter "Amphitrite."
2. From about 15 to 20 years, "off" and "on."
3. Yes; but how often I cannot say, as I have been in and out so frequently that I consider myself thoroughly acquainted with both ports as far as Scattery Roads, in the Shannon, and Galway Harbour.
4. Yes, I have, very often.
5. No; I might be to the southward or northward of Galway Bay.
6. See Answer No. 16.
7. I have never made a passage from America and outside of Arran Islands in thick weather; I may be a little to the northward or southward of Galway Bay, and under these circumstances I should not like to trust to the soundings in thick weather, blowing hard.
8. I cannot speak from my own knowledge.
9. Outside of the line of the Heads of Slyne and Blaskets it sets south with the ebb and north with the flood, to the best of my judgment; at 10 miles off perhaps one knot at the springs, near the headlands 1 ½ knots.
10. If I was obliged to do it, I would prefer Galway, being the safest to make.
11. I do not recollect.
12. I have never served in a large steamer, and I do not know what they can do.
13. Not put.
14. There are in making Galway in clear weather, viz.: Bunowen Hill, a remarkable one, the Twelve Pins of Connemara, Roundstone Hill, and the Brandon Hills. In coming from sea, I think, from the land-marks, I could make Galway easier than the Shannon.
15. Yes, I have very frequently; when cruising off the coast in very bad weather, sometimes thick, not getting a glimpse of the land, I have run for Galway Roads for shelter.
16. If the weather was clear and likely to keep so, and that I could see the land, I should have no hesitation by day nor by night; if the weather was clear that I could see the land and light, I would have no hesitation to run for Galway, and bring my ship to

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Appendix.

in Galway Roads; but if the weather was thick or likely to become so, I would keep the sea, thinking it unsafe to run; but if I got it inside Arran Islands, and the thick foggy weather came on that I could not see land or light, I would endeavour to keep my position under the Arran Islands till the weather cleared; but if a light was placed on Blackrock and I was outside the Arran Islands, I should consider it safe to run for it on the chance of making it; if I could see it I should be sure of getting hold of Mutton Island light.

17. Very good.

18. Yes, sir, but as far as I could ascertain the ground tackling was bad.

19. They do.

20. Not so much as outside, as the Islands of Arran form a natural breakwater.

21. There is, blowing a gale of wind.

22. Yes, if she had good tackling.

23. No.

24. I have had no experience in large steamers.

25. With proper boats I think they could.

26. Variable; in the summer gales spring up suddenly, sometimes with misty, hazy weather, and in the winter strong gales are common, sometimes lasting two or three days, with misty, hazy weather.

27. In the winter time it is misty and thick.

28. They are, but I think there is more fine weather than fogs.

29. Generally, with south-westerly.

30. In the summer variable, in the winter from south-westerly to north-westerly.

31. From south to west-south-west.

32. It is heavy, and it rises very quickly at times. It usually precedes.

33. When blowing a gale of wind it is.

34. It would depend on whether I made the land to the northward or southward of Arran; of the two I would prefer the south.

35. Occasionally during the winter, watching an opportunity for fine weather. It is boisterous in the winter time.

36. They do; sometimes they last one, two, or three days.

37. In the winter season it might so happen, but not very often, to the best of my judgment; but in May, June, July, August, and probably September and October, there would likely be no detention.

38.

39. Galway.

No. 2.—Answers, 23 June 1852.

1. John Harding, commander, R. N.

2. I have been employed from Sheep Haven to Donegal Bay, in surveying the coast, from the year 1832 till 1835.

3. I am acquainted with the Port of Galway, surveying it under Captain Bedford from 1845 to 1848, since which time I have been living in the neighbourhood of Galway. I do not know anything of the Shannon.

4. Never from the outside of Arran Islands.

5. From what I know of the coast, I should not like to do it unless the characters of the soundings were very marked, of which I have no knowledge.

6. If it was night and thick weather, I would wish to delay till morning, and proceed cautiously, but in fine weather I should think it safe to run up at any hour.

7. I have no knowledge of the soundings outside the Arran Islands.

8. See Answer 7.

9. I have no recollection of the set of the stream in the offing.

10. I have no knowledge of the Shannon.

11. Never to my knowledge.

12. I think it might be hazardous in rounding to, in a very heavy gale and high sea, yet necessary to obtain soundings. I have had no experience in large steamers under such circumstances.

13. If the heaving to were effected, I think I might depend upon the correctness of the soundings.

14. I think there are good landmarks about the Bay of Galway, viz., the high mountains of Connemarra, the Arran Islands, and the cliffs of Mohur or Hag's Head to the southward of the Bay. I was never off the Shannon.

15. I have entered it when it was blowing very strong outside.

16. No, provided I saw my way; and if I could not see my way I would not hesitate in proceeding carefully with the endeavour to make the light.

17. Yes, it is limestone mud.

18. Yes; I remember two merchant vessels in about 1846 or 1847, one of which lost her foremast, the other, an American vessel, went ashore; this was, in my opinion, not the fault of the holding ground; these ships were lying at single anchor.

19. I do not think they do always.

20. Not inside the islands, but on the Arran Islands it breaks very heavily indeed.

21. No; there is occasionally at high water, but not much.

22. I think 19 ½ feet water is rather too deep a draft of water, unless Government is disposed to project a breakwater from the south point of Mutton Island; the roads would moor, say three steamers, drawing 17 or 18 feet in safety.

23. I do

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23. I do not; there are places that might be available for repairs of vessels or coast trade.

24. Generally speaking she could, but it would happen occasionally that she would be delayed by the weather.

25. In the present state they must be disembarked by boats, or a small steamer of light draft of water would be necessary.

26. Weather variable in summer, winds generally from south-west and north-west, moderate and fresh breezes, weather generally the same as over the British Isles; in winter occasionally very heavy gales of wind, attended with rain from the southward, and then clears off to the north-west, and blows in heavy squalls stronger than before, the gales lasting probably four or five days before and after the spring tides.

27. I think it is much the same, not in general, but there may be cases of heavy gales in winter, as I have said in my answer to No. 13, which may delay the mails.

28. No.

29. From the southward.

30. Between south-west and north-west.

31. West-north-west.

32. I have no experience outside Arran Islands, but off Slyne Head it does; the summer swell is not near so heavy as the winter's, and subsides more quickly.

33. There is some sea, but the ocean swell is mostly cut off, and towards Mutton Island at low water the swell is but little.

34. I prefer the southern channel.

35. I was once off the west coast of Ireland in November 1833 in a hard gale from south-west to north-west running from the Bay of Donegal to Lough Foyle in a small cutter of 29 tons, at night.

36. They do, and they sometimes last long in the winter.

37. Should it be desired, I do not see why it should not be effected, as the western parts of Ireland lie so much nearer to America; but it is probable that the regularity of the mails might be sometimes interrupted by severe gales in any of the ports of the western part of Ireland.

38 & 39. I think it would much depend upon her situation whether she were well to the northward near Slyne Head, or to the southward of the bay; in the former case Galway might be made, if the latter the Shannon.

40. I can only give my opinion as a seaman, but I may not be able to give a good judgment upon all the required capabilities of a packet station, other places being unseen by me.

41. I think Galway might be rendered available; the entrance well lighted, dangerous parts buoyed, a good system of pilotage off the Arran Isles, and good moorings laid down, and large steamers of 19 ½ feet draft would require some protection thrown out from the south of Mutton Island to allow of them to ride in a greater depth of water than 23 feet.

(signed) *John Harding.*

I have to remark that in a gale of wind in 1847 so much water was driven into the bay as to cause the high water neap tide to be two feet higher than a winter spring tide.

No. 3.—Answers, 23 June 1852.

1. Lawrence Moore, harbour-master of the port of Galway.

2. Was formerly master mariner for seven years, out of the port of Galway, trading to North America and the States, and coasting.

3. I am of Galway, but not of the Shannon.

4. I never saw it so thick but that I could make the land.

5. If I could not see more than a mile off, I would not like to run.

6. I would, decidedly, if I knew I was between the Slyne Head and the Blaskets.

7. I think they are. The south-west side in the offing is sandy, and the soundings to the northward are gravelly; at least so I have found them.

8. Sixty miles due west of the Arran Islands, I should expect from 60 to 70 fathoms sand; 30 miles, about 45 fathoms; five miles off, about 20 or 25 fathoms.

9. I do not know of any tide outside.

10. I would prefer decidedly Galway.

11. No; and I do not know of any running in preference to any other port

12. Not being acquainted with steamers, I cannot say; but I would round a sailing vessel to for soundings.

13. I would within eight fathoms.

14. There are. Galway: Twelve Pins of Connamarra, Skird Rocks, Errisbeg Hill, Brandon Hills, and North Isle of Arran. For the Shannon: Brandon Hills.

15. I have. Blowing a gale from south-west, in the barque "Irvine," of 500 tons, 14 ½ feet; the "Recovery," of 400 tons, 13 ½ feet, and brought up in the roadstead with single anchor.

16. No, not any, by night or by day.

17. From my own experience, I think it is as good as any I have experienced.

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18. Yes, I have. An Austrian brig drove from her anchor being foul, by pilot's statement. She went on shore on Hare Island, and went to pieces.

19. Inside the Arran Islands, I think there is less wind.

20. No; it does on the Arran Islands, but not through the channels. A ship might be at anchor in any part of Galway Bay under such circumstances.

21. No.

22. Yes.

23. No.

24. Yes, at all times, and in all weathers.

25. Yes, in a good boat it would be possible.

26. In the winter we usually have moderate westerly winds, sometimes strong breezes; gales occasionally, but not often. In the summer, variable winds, never amounting to a gale, during June and July. In the winter, rain occasionally, but not thick. I have seen it a fog, but not to last more than an hour or so. In the summer, not so much rain; I have not seen fogs, but occasionally mists.

27. As far as my own experience, I have found it thicker in the English and Irish Channels, than I have found it off the coast of Galway. It is not frequent.

28. No; they may last for an hour.

29. No, not generally; but heavy rain.

30. In the summer, variable; in the winter, from west to north-west, occasionally south-west; the heaviest is from west-south-west.

31. West-south-west.

32. It is in a gale; it does not get up quick.

33. Not a very heavy sea.

34. I prefer the North Channel.

35. I have frequently. I ran through the North Sound of Arran Islands in a gale of wind in thick weather; the general character of the weather is moderate, and the coast is bold. The sea runs heavy, with a westerly wind on-shore.

36. They blow hard from south-west, but in a shower of rain they veer round to the north-west in a squall and clear up, and it becomes moderate; the gales last from 12 to 24 hours.

37. A ship of that sort can approach it night or day, and come down the bay at all hours, and land the mails and passengers.

38 & 39. Galway, decidedly. I would not run for the Shannon, because I do not know it, and because I have heard from other masters that with a north-wester and an ebb tide I would swamp my ship of 500 tons; and the narrowness of the channel too would prevent my running for the Shannon.

40. There is smooth water and safe anchorage, convenient communication with the shore by boat. There is no convenience for repairing a steamer of those dimensions in Galway at present, nor for repairing machinery; nor are there proper wharfs or basins for such large vessels. The present basin could safely admit a vessel drawing from 16 ½ to 17 feet water, and the width of gates is from 55 to 56 feet.

41. A breakwater from Mutton Island in a south-east direction, a dry dock, a pier from Mutton Island to the shore, a light vessel on the Santa Marguarita Rock, a stone perch on Black Rock.

(signed) *Lawrence Moore.*

No. 4.—Answers, 23 June 1852.

1. Coleman R. Broughton, Esq., resident at Innislacken.

2. Resident on the west coast of Galway Bay for the last 16 years. I am not a sailor by profession, but I have been at sea in the early part of my life for four or five years. I have been constantly fishing off Slyne Head and Arran Islands for the last 15 or 16 years, for my own amusement, in a boat of from five to ten tons.

3. I am very well acquainted with Galway, but not with the Shannon.

4. In my boat, when 30 or 40 miles off the land, I have frequently run for the Bay of Galway in thick weather, but I never met the weather so thick that I could not see the land four or five miles off. I generally took advantage of fine weather for going out, and was out sometimes three or four days.

5 & 6. Not put.

7 & 8. I have no knowledge of the Shannon, nor of the soundings to the southward of Arran, but I am acquainted with them between Arran Islands and Boffin Island. I was led to accompany Mr. Alexander Nimmo (nephew of the great civil engineer of that name), in search of a bank which his uncle had got soundings upon. In order to find this bank we sailed from Round Stone, and stood to the westward about 35 or 40 miles, and got soundings in about 50 or 60 fathoms, and then sounded occasionally for nine or ten miles in a north and south direction, during which time we had about the same depth of water. I have occasionally fished between this bank and Slyne Head, and I know the depths of water by the buoy line we had out. This bank is all clean sand, and between it and Slyne Head the bottom varies with ridges of clean sand, with pieces of broken coral rock between, which we brought up with the lines. At about 10 miles off Slyne Head there is about 35 to 40 fathoms; at about 15 to 20 miles from 50 to 60 fathoms, deepening towards the bank above mentioned. About 20 or 30 miles in a south-west direction off Slyne Head there will

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will be about 50 fathoms; from this spot towards Mal Bay, as far as Arran Islands, the soundings would vary from about 45 to 35 fathoms, and I think the ground generally would be sand and shells. This kind of ground extends towards the shore until within 15 miles of the coast, when you meet the before-mentioned broken coral pieces of rock.

9. I am not acquainted much with tides here, but I think there is no tide at nine or ten miles from the land.

10. I have no knowledge of the Shannon.

11. Never with a fair wind.

12 & 13. Not put.

14. There are for the Bay of Galway, of which the most remarkable are the Twelve Pins of Connemarra, Errisheg Hill, Slyne Head, and Arran Lights and Cashel Hill, which may he seen a long way at sea.

15. Not put.

16. Not the slightest; I think I should steer her course by the land, but I do not know the courses.

17. Yes.

18. Yes, I have one or two; one was with a foul anchor, and the other had only two or three hoys on board, and could not veer.

19. I do not think the gales blow so hard in the roadstead as outside.

20 & 21. If a vessel were properly moored under Mutton Island there is no sea that could break her adrift, or in the most exposed part of the roadstead.

22. *See* 20 & 21.

Q. Are you able to give an opinion on the capabilities of Galway Roads for a packet station, and are you able to give a competent opinion as to the requirements for a packet station?—*A.* I am not able to give an opinion.

23. I do not know of any place better adapted than Galway Roads.

24. I should say so.

25. I have no hesitation in saying that passengers and mails may he embarked and disembarked in the present state of the roadstead in any weather.

26, 27, & 28. In summer, changeable, fair weather, light winds generally, no fogs, misty rain for a few hours sometimes, but not often; I could see six or seven miles off the land in this weather. In winter, generally clear weather; westerly winds prevail; there is some rain, very little mist, never saw a dense fog on this coast, fogs do not prevail; the winter mist is not so dense as the summer, nor of so long duration; gales are not of frequent occurrence; when they begin they last about 24 hours; they commence about south-west, and draw round to north-west in showers, and clear off.

29. I should say south-south-west.

30. Spring, I think west-north-west; summer, variable; autumn, westerly; winter, from south-west to north-west.

31. I should say a westerly.

32. I have never been out in a heavy gale of wind; sometimes along shore the sea breaks before the approach of the gale.

33. There is no sea that I could not have run down it in a half deck boat of eight or ten tons.

34. I consider them all safe except Foul Sound.

35. I have in a vessel of 300 or 400 tons, when a hoy, leaving Galway for three or four voyages to America and London.

36. *See* answers 26, 27, and 28.

37. So far as my experience goes, I do not see any difficulty. If I could get soundings on the banks that I am acquainted with, I should have no hesitation in running at all times and in all weathers for Galway Bay.

(signed) *Coleman R. Broughton.*

No. 5.—Answers, 23 June 1852.

1. *Q.* What is your name and occupation?—*A.* John Hinton, lighthouse-keeper, Mutton Island.

2. Can you give any information on Galway Roads, with respect to the sea in heavy weather?—A south-west wind is the worst wind we find at the lighthouse, and that which raises the heaviest sea. In 1839, 6 January, at neap tide, the storm was awful, and I am of opinion that if it had been a spring tide, the whole lighthouse and buildings would have been carried away by the high sea. In 1847, 24 January, at spring tide, we were visited by another storm and high spring tide, which knocked down the walls, and carried away the lighthouse boat, and some empty casks, the wind south-west to north-west. In 1851, 16 January, a south-east wind blew very strong, and broke away the bank between Claddagh and Nimmo's Pier. The wind blowing from Hare Island.

3. Are these heavy seas and storms of frequent occurrence?—No, they are not.

4. Have you frequent south-west gales at the lighthouse?—Yes, in the months of January and February.

5. Are the gales that you speak of attended with thick weather?—Yes, in general it is thick weather, I think in 1847 the weather was so thick that we could not see the vessels at anchor in the roads, from Spoon Drift.

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6. Have you ever known any vessels driven from their anchors in Galway Roads?—Yes; the first I knew was the "Lively," of Galway, she drifted to Hare Island, but was afterwards got off. A Greek vessel was totally wrecked, and another vessel (a Swede) was driven on Hare Island and was towed off by a steamer.

7. Does a heavy sea in gales of wind roll in upon Mutton Island?—If it is a westerly wind, which are the most general, the seas are not so heavy, but with a south-west wind they are very heavy; I mean the usual gales.

8. Is there much sea inside Mutton Island during these gales, at high and low water?—No, I do not think it is rougher than I have seen in other similar harbours, but a heavy sea comes round the southern part of the island.

9. Does a south-east wind throw much sea upon Mutton Island, so as to prevent a steamer lying alongside a pier if constructed there?—I never saw much sea with that wind, except on the before-mentioned occasion; I never saw any vessel drive with that wind.

10. Do fogs prevail in this harbour?—No, not in general.

11. Does misty weather prevail?—It does.

12. How far can you generally see in these mists?—About a mile.

(signed) *John Hinton.*

No. 6.—Answers, 23 June 1852.

Q. What is your name and occupation?—*A.* Francis Moore, chief boatman, Coast Guard. I am not a seafaring man.

Where have you been principally stationed, in or near Galway Bay?—On the North Island of Arran for 13 years, at Barna Station 2 years, at Ballyranghan 11 years, at Fairhill one year.

What is the usual kind of weather in summer and winter outside the islands of Arran?—Summer, sometimes very fine weather, at others fresh breezes; very few gales or fogs; winter, breezes stronger, but very few gales. It very seldom occurred that I could not come up from the Arran Islands in a hooker.

Does thick and misty weather often occur on the western coast of Ireland, and does thick and misty weather accompany the gales?—Thick and misty weather is common with south-west winds, and when the wind changes to north-west it clears off.

(signed) *Francis Moore.*

No. 7.—Evidence of Mr. *Fitzgerald,* 24 June 1852.

Q. What is your name and occupation?—*A.* Francis Fitzgerald, Lloyd's agent at Galway for the last 40 years or longer.

What is the extent of your station as Lloyd's agent?—From Galway Bay, south side, to the Killeries.

Do you know of any wrecks, or vessels which have been damaged by being driven on shore in Galway Roads?—So far as I can remember there were only two, these were driven on Hare Island; one was the "Lively" of Galway, about 200 tons register; she was afterwards got off, having sustained some damage, the other was a Greek brig; she was totally wrecked.

What amount of wrecks have taken place at your stations during the last 10 or 12 years?—I think about 10 or 12.

Does this include all the wrecks or only those you were called to look after as Lloyd's agent?—All the wrecks.

(signed) *F. Fitzgerald.*

No. 8.—Answers, 24 June 1852.

1. Joseph Evans, licensed pilot of port and harbour of Galway.

2. I have been acquainted with the bay for about 20 years; made several voyages across the Atlantic, both in sailing vessels (237 to 346 tons register), and in steamers of the Cunard Line, viz., "Hibernia," "Britannia," "Caledonia," and others, as passenger.

3. I am acquainted with Galway, not with the Shannon.

4. Yes, Galway once in thick weather. We lay to for about an hour, to determine our position by the soundings, and until we could see the light. The wind was at the time a double reefed topsail breeze.

5. If the soundings were not properly laid down, I would not run in thick weather for any port, if I did not know my position.

6. I do not know about the Shannon, but I would run for Galway, no matter how it blew, at any time, day or night.

7. I never hove to for soundings more than twice off Arran, but I think I would grope my way to Galway. Coming home from St. John's, New Brunswick, in the "Cushlamachree," of Galway, 327 tons, having had no observations for three days, we hove to in the parallel of Galway, and sounded in about 90 fathoms, 60 or 70 miles west-north-west from Arran Islands, and then ran from 7 a.m. to 7 p.m., and sounded in 54 fathoms. The weather was thick then, and we hove-to, to see the light of Arran, which we saw in half an hour and ran in.

Q. If

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Q. If the weather had continued thick, and you had not seen the light, what would you have done?—Kept her off till morning, or run till it cleared. I am not sufficiently acquainted with the soundings to answer this question.

As pilot of the port of Galway, have you ever heard that the soundings to the westward of Arran Islands are of such a nature as would in thick weather lead you to know for certain that you were running for the port of Galway?—I have (*see* John Quinn, who was with Captain Bedford in the survey of Galway). Owen Jones, fisherman of Claddagh, I think, might give information; see also Owen Hynes.

8. I cannot.

9. No.

10. Galway, but I do not know the Shannon.

11. Never that I heard of.

Q. Do you think a disabled steamer in any weather could safely run down to make the Arran Islands, provided she knew where she was?—*A.* I think she could safely make them.

12. I think it would be safe.

13. I would within 10 fathoms.

14. Outside of Galway there are, viz., Errisbeg Hill, Twelve Pins of Connemarra, Slyne Head Light, Arran Islands and Light, and Hag's Head. I could see the Twelve Pins and Errisbeg farthest by day, and the Slyne Head Light by night.

15. I have for the Galway Roads.

16. If I could get hold of Black Head I would not hesitate to run for Galway Roads, steering east ¼ north; and it should be a very dirty night indeed that I could not be sure of making Black Head.

17. Cannot be better.

18. I have, sir, some years ago, with a gale of wind from south-west to north-west.

19. Yes, I should say so.

20. Not with westerly winds, but south-south-west to south-west sends in a pretty good lump of a sea in a gale.

21. With a south-south-west and south-west wind, yes.

22. I think not at present, but I think a pier or breakwater would protect them.

23. I do not know of any part of the bay better adapted than Galway Roads.

24. Yes.

25. Yes, mails she could, but not ladies or children; a breakwater or pier from Mutton Island, south end.

26. In summer generally fine weather with moderate breezes. In winter sometimes strong close-reefed topsail breezes, occasionally heavy gales (December and January are the worst months).

27. No, not often, but with a south-westerly wind it is generally thick; the north-west winds are clear.

28. No.

29. Southerly or south-west.

30. Spring, sometimes long spells of easterly; summer, variable; autumn, westerly; winter, south-west to north-west.

31. South-south-west to south-west.

32. Sometimes; it does usually precede gales of wind at sea.

33. No, sir; a ship can always ride in any part of the bay, inside the Arran Islands, in any gale of wind.

34. I consider either perfectly safe; it depends on which sound I'd make first.

35. Yes, in all weathers in winter for the last 20 years.

36. They blow with violence, but do not last long; 24 hours is the longest I ever recollect; ordinary gales generally last two or three days.

37. I know no objection.

38. I am not sufficiently acquainted with the Shannon, but I should prefer Galway from what I know of it.

39. I should prefer Galway.

40. In its present state Galway has not all the requirements for a packet station with respect to docks, breakwater, and landing-piers.

41. What I have said before (No. 40).

(signed) *Joseph Evans.*

No. 9.—Answers, 24 June 1852.

1. Henry Leigh, chief officer of Coast Guards; formerly of East India Company's service.

2. I have been living here for the last three years and a half, employed in the coast guard service, but have no experience outside Arran Islands.

3. I am acquainted with Galway Bay.

Nos. 4 to 15 inclusive, omitted.

16. Not the least in any fine weather, night or day; if the weather was so thick that I could not see the land or lights, I would bring her to an anchor under Black Head, or in any part of the bay.

17. I never saw a ship drift in it more than a few fathoms.

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18. I have known a light Greek brig drive on Hare Island in 1850.
19. Yes, quite as heavy as outside.
20. Not to the roads, but comes as far as the lighthouse, Mutton Island.
21. Not much.
22. I consider it perfectly safe at all times of tide, and in all weathers.
23. I do not, as I am not acquainted with the other parts of the bay.
24. I have no doubt but she could.
25. I have no doubt but she could embark and disembark her passengers and mails by means of a hooker, at all times and in any weather.
26. In summer, generally fine, during the period that I have been here; in winter, generally blowing strong from southward to northward.
27. I have not seen much thick weather inside.
28. No.
29. With easterly wind.
30. Spring, about from east to east-south-east; summer, about from east to north-east; autumn, south-west; and winter, south-west.
31. South-west.
32. Cannot answer.
33. I have seen it very heavy; but never so heavy as to prevent a ship's anchoring in the middle of the bay.
34. I do not know them.
35. Not put.
36. The longest gale of wind that I have known lasted two days. In the winter they blow very hard.
37. I do not know any obstacle whatever.

Q. Have you ever commanded or served in a large steamer, and if so, how long, in what capacity, and what was the name of the vessel?—*A.* I served for one year and a quarter as third officer of the "Solway," West India Royal mail steam-packet, and three months as second officer of the same ship.

From your experience, would you, if you were in such a steamer off the coast of Ireland, in a gale of wind on shore, and so dark that you could not see the lights or land, consider it safe to run for Galway Bay?—I would not, under those circumstances, not even if I were well acquainted with the soundings.

Would you run for Southampton?—Yes, as far as St. Helen's, because the soundings would be a guide.

As you are acquainted with the nature of the packet service, and the importance of regularity in the delivery of the mails, do you think a packet station at Galway would allow the same regularity as Southampton?—I should say one port is equal to the other.

Do you think them equally safe?—I do.

Which would you prefer to run for?—Southampton.

(signed) *Henry Leigh.*

No. 10.—Answers, 24 June 1852.

1. John M'Donough, late master of the "Eleutheria," of London.
2. I have been sailing out of this port as master of different vessels for the last 18 or 20 years.
3. I am, both.
4. I have often made both in weather that I might see four or five miles, but not in a fog.
5. I would in a steamer if I could see three miles off; presuming that a steamer could make her way off a lee shore, I would do this in a gale of wind.
6. Yes, I would for Galway, but in making Loop Head I have always found a mist over the lighthouse, and would not run for it so confidently as I would for Galway.
7. I do not think the soundings are of such a nature that I would venture to run for either port under these circumstances.
8. No, I cannot, without the chart, but I have sounded in 70 fathoms at about 60 miles off the islands of Arran, with sandy bottoms; I sounded again at about 40 miles off and found sandy bottom mixed with shells, in about 50 fathoms; this is to the best of my recollection.
9. I am, sir; I have never perceived much of a current at 60 miles off Arran; if any, it is caused by the wind from the southward. They are not likely, with due allowance, to throw a ship out of her course.
10. Galway.
11. I have not.
12. I do not know anything of steamers, but I have never found it dangerous in any vessel I commanded.
13. I would.
14. There are; viz., at Galway there are the Twelve Pins of Connamara, which, I believe, are the most remarkable landmarks I have ever seen, having the appearance of a cock's comb from seaward; then the Errisbeg Hill, the North Island of Arran, and the Arran Light,

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Light, Slyne Head Light. I have seen the Twelve Pins of Connamarra 70 miles off. At the Shannon there are the Brandon Hills, which I have also seen 70 miles off.

15. Never for the Shannon, but for Galway I have.

16. I would if I could see a quarter of a mile, or anything at all ahead.

17. No better, sir.

18. I have, sir; there was a brig and schooner during a remarkable gale in 1839.

19. I cannot say.

20. No.

21. No.

22. I should say so.

23. No.

24. Yes.

25. I think they might.

26. In summer, generally fine; in winter, generally clear; gales are pretty frequent, but not thick weather.

27. Not often; very seldom any thick weather occurs on this coast. There was only twice that I remember any thick weather, and in each of these cases I ran in for Galway.

28. No.

29. Southerly.

30. Spring, east to north-east to west; summer, west to east; autumn, easterly; winter, west to south-west.

31. South-west.

32. About the same as it is in the offing. I have often been in the English Channel, and I found as much there. I do not think the swell usually precedes the gale.

(signed) *John M'Donough.*

33. No, I think a merchant vessel could always bring up in any part of the bay.

34. I would take either; the north and south are best.

35. I have frequently, for the last 17 or 18 winters, in the coasting and North American trades.

36. They do not generally blow with considerable violence; I have only known two; the heavier of these two lasted four or five hours. The ordinary gales last 24 hours, or thereabouts.

37. Nothing could prevent a steamer coming into Galway but dense thick weather, and no thick weather could prevent her going out; this dense thick weather very seldom occurs; I have never experienced it, and I have never in all my experience been obliged to heave-to for daylight, or on account of thick weather, in making the port of Galway.

38 & 39. I should say Galway, because you have clear passages to run through for Galway, and the width of these and the entrance of the bay make Galway more accessible than the Shannon.

Q. Do you think a steamer disabled in her machinery, in any weather could safely run down to make the Arran Islands, provided she knew her position?—*A.* I think she could with the greatest safety.

(signed) *John M'Donough.*

No. 11.—Answers, 24 June 1852.

1. William C. Coen, Maltese agent for foreign vessels at Queenstown. I am not a seafaring person.

2. This is the first time I have been to Galway; I have been residing for 16 months on the Shannon, and I used to go occasionally to Carrigaholt to get the agency of ships.

Q. Do you know the case of any foreign vessels having arrived in the Shannon, which were disabled by loss of masts or otherwise?—*A.* Not to my knowledge, during the time I lived there.

Do you know of any foreign vessels meeting with any damage through stress of weather or sea, at either of the anchorages in the Shannon?—I do, on several occasions at Grass Island; vessels frequently drift ashore when there is a breeze; at Foynes vessels only anchor, never discharge their cargoes; at Tarbert, I cannot say; at Scattery, I cannot say; at Carrigaholt, I cannot say. In about January last four vessels, viz., one Maltese, one Austrian, one Greek, one Russian, each from 200 to 300 tons, were more or less damaged by wind and tide.

Which anchorage do masters of foreign vessels like best in the Shannon?—They prefer Tarbert to come to anchor before going up the river to discharge.

(signed) *William C. Coen.*

No. 12.—Answers 24 June 1852.

1. John Cosulich, master of the Austrian barque "Kalk," 360 tons register.

Q. What is your experience on the coast of Ireland?—*A.* I have been once in the Shannon, and once in Galway; had a pilot on board each time.

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10. Galway, ten thousand times; because it is much more clear; no danger at all, and when at sea, if you see Arran Island you have 30 miles to go in a clear course; the tides are not so strong in Galway; and when going up the Shannon if two or three vessels are in company in the narrow parts, if either of them sheers a little, some one of them must go ashore.

Q. Which do you prefer, the west coast of England, or the west coast of Ireland to make? —*A.* The west coast of England, because the seas are not so high; I consider Falmouth and Cork to be alike to make; I prefer Falmouth to any port in the west coast of Ireland.

(signed) *Gio. Matt. Cosulich.*

No. 13.—Answers, 24 June 1852.

1. William Williams, master of the "Rhoda," of Milford, 150 tons register.
2. This is my first time in Galway, but I have been trading on the west coast of Ireland for several years.
3. Yes, once in Galway, several times in the Shannon.
4. Made the Shannon once in thick weather, having passed the Blaskets through the Inner Sound.
5. No; for neither. I would not run for my own port, nor for any port in such weather.
6. I would.
7 & 8. I do not know.
9. Off the Blaskets the tide runs six hours each way; the flood runs to the north-east, and the ebb to the south-west.
10. Galway.
11. I have frequently, going to the Shannon, been obliged to keep the sea, rather than go to the Shannon in thick weather. I was twice leaving Limerick with cargoes, and was each time obliged to heave-to, fearing to go back on account of the thickness of the weather between Loop Head and the Blaskets.
12 & 13. Not put.
14. There are the Arran Islands for Galway, and the Brandon Hills for the Shannon.
15. Not put.
26. I consider it a wild coast both as regards wind and sea. I should say it is far worse than the English Channel. I consider Cardigan Bay very bad, but the western coast of Ireland is worse, in summer and winter.
27. Yes, I find it more so than the English Channel, and misty weather accompanies the gales from the south generally. I consider this coast more misty than the coast of Cardigan Bay.
28. Cannot say.
29. *See* 27.
30. Spring, summer, autumn, and winter, generally south-westerly.
35. Yes, I have been coming and going for the last 16 years, and I always find the coast very wild here, and the seas very heavy. In winter they are more so than any coast I have been on.
36. They blow very strong; they sometimes last 48 hours; they generally last 24 hours, but not so long in summer.
38.
39. Galway, decidedly.

No. 14.—Answers, 24 June 1852.

1. Edmund Duffy, shipbroker and merchant, and emigration agent

Q. Can you give us any evidence on nautical questions?—*A.* No.

No. 15.—Answers, 25 June 1852.

1. Richard B. Beechey, Commander, R. N, in charge of Admiralty survey of Broadhaven, and adjacent coast of Ireland.
2. Employed on the Admiralty surveys of the Shannon, Bantry Bay, and Berehaven, Clew Bay and Blacksod Bay.
3. With the Shannon, but no intimate knowledge of Galway Bay.
4. Neither.
5. I have never made either of these ports under such circumstances; but from an inspection of the charts, by Captains Wolfe and Bedford, as well as from my own observations on other parts of the coast of Ireland, I should say that no dependence whatever could be placed on the soundings for ascertaining a vessel's position, unless, perhaps, by a series of observations, and even then I should not feel myself warranted in running towards the land under such circumstances.
6. Certainly, I should.
7. The answer to question 5 will apply to this, and I would add that no vessel could be considered in perfect security with regard to the land in less than 50 fathoms, as many of the headlands and islands off the coast have 30 fathoms close off them.

8. Not

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8. Not off either of these ports.

9. I have only a general knowledge of the tides off the coast, and these I think would have no dangerous influence, but close in shore they might; at least I can answer more particularly in the vicinity of Achill Head and Blacksod Bay; I have found them in many places very uncertain and dangerous.

10. I do not consider myself sufficiently acquainted with Galway to form a correct comparison of its merits with those of the Shannon.

11. I know of no particular instance.

12. In a westerly gale the sea on this coast is so heavy, that any vessel rounding to would do so at great risk, and more particularly a large steamer.

13. Beyond obtaining a general idea of proximity to the land, I should say no dependence could be placed in such soundings in any circumstances, except with a sounding machine.

14. I can only speak practically with regard to the Shannon, the mouth of which is remarkably distinguished by Brandon Head, which, in connexion with the lighthouse on Loop Head, Ray Hill beyond it, &c., would I think remove all doubt as to its identity.

15. Never.

16. Not qualified by experience to answer this question.

17, 18, 19, 20, 21, 22, 23, 24, 25. Ditto.

26. From 15 years' experience on the west and south-west coast of Ireland, I should say that the months of May and September are the finest in the year, and that as we recede from them the bad weather prevails; this, as a general rule, to which of course there are often important exceptions. In these months the few fogs which are met on this coast occur, for I consider it very free from such as compared to the eastern coast. There is usually bad weather about the latter part of June and the beginning of July, and often heavy gales, but they do not last long. They almost always begin from the southward or south-east, with thick drizzling rain, and often expending their greatest force from the south-west, veer round to the north-west, and end in strong breezes, accompanied with squalls. The latter part of November is generally remarkable for bad weather, which prevails more or less till the frost sets in about Christmas. The month of January is famous for the heaviest gales that have been known, as well as for continued bad weather. It may be also mentioned that throughout the year the bad weather almost always occurs about the time of the spring tides. Although the barometer serves as a warning of the approach of bad weather, yet I have always found it influenced more particularly by the moisture of the atmosphere, and a more certain indicator of rain rather than wind, for I have often known it to fall very rapidly and extensively without being followed by a gale; it is, however, a very useful addition in forming an opinion of the weather. It is usually very high with hard northerly and north-easterly winds, and even with gales from those quarters.

27. The regular gales are always accompanied more or less with thick, misty weather, particularly at the commencement; and there is no doubt that this thick weather prevails to a greater extent on the west coast of Ireland than any other part of the British Isles, which its proximity to the Atlantic will easily account for. The density of the mist of course varies considerably; at times allowing of your seeing four or five miles, and at others not more than one.

28. Certainly not.

29. With the north-east and east.

30. Answered in 26th Question.

No. 16.—Answers, 25 June 1852.

1. Frederick Kemble, inspecting commander of Coast Guards, Galway district.

2. I have been inspecting commander of the Coast Guards in Galway nearly five years.

3. I am acquainted with the port of Galway only.

4. Never.

5. No.

6. I should run with confidence for Galway Bay.

7. I am unacquainted with the soundings, my duties having been confined within the Arran Islands.

8. No.

9. No.

10. Being unacquainted with the Shannon, I should run for Galway.

11. Never.

12. It might be attended with risk.

13. Scarcely.

14. The Connamarra mountains would form a good landmark for making Galway. I am unacquainted with the Shannon.

15. Never.

16. Having passed the Arran Islands, I should heave-to under the North Arran Light until it cleared off, or until daylight.

17. Excellent.

18. I have some recollection of a merchant brig drifting on one occasion, but I believe it to have been caused by the vessel having had too little cable out, and her top-gallant yards across in a gale of wind. If properly anchored, no vessel should drift in Galway Bay.

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Appendix.

19. Yes.
20. Yes.
21. Yes.
22. A large steamer of these dimensions could lie at anchor safely during all times of tide, and in all weathers, but of course the anchorage ground would be much improved by the erection of piers and a breakwater.
23. No.
24. He might occasionally be detained during the height of a very heavy gale.
25. They could, if provided with proper boats.
26. The usual character of the weather in summer is fine, but generally very rough in the winter.
27. Thick and misty weather generally accompanies the gales on this coast.
28. Not very frequent.
29. Fogs are generally observed with the winds at south-south-west and south-west.
30. In the summer the winds are variable, and in the winter the prevailing winds are from the south-south-west and north-west.
31. West-north-west.
32. Very heavy sometimes, and often precedes a gale.
33. It is heavy.
34. I believe the south channel is preferred, where the situation of a vessel will allow.
35. No.
36. Sometimes with considerable violence, lasting about three days.
37. I see no reason why Galway should not be selected for a packet station, if the Government should desire to establish one on the west coast of Ireland, as the objections to Galway, in a commercial point of view (by which I mean the inconvenience and risk of shipping and disembarking goods intended for or sent from England), are equally to be applied to any other port on this coast. I believe Galway is as easily and as safely approached in all weathers as any other port on this coast of Ireland.
38. I cannot answer this question, not having been in the Shannon.
40. The subject having engaged my attention lately, I have formed an opinion of what I consider the capabilities are of Galway Roads for a packet station.
41. In my reply to a question put to me by the former Transatlantic Packet Station Committee, I stated what the requirements were, I consider, necessary to render Galway fit for a transatlantic packet station; my opinion is to be found in the published Report of the Commissioners I there stated that I thought, for the establishment of a packet station, it would be necessary that a breakwater and pier should be erected connecting Mutton Island with the main land at Fair Hill, to be met by a corresponding pier and breakwater extending from Hare Island westward.

About Fair Hill would be found space for the erection of the storehouses and buildings necessary in the outfit and repairs of the steamers. The outlay required in the building of piers and breakwaters, &c., has been estimated at about 120,000 *l.*

(signed) *Frederick Kemble*, Commander, R. N.,
Superintending Commander Coast Guard, Galway.

No. 17.—Answers, 25 June 1852.

1. Hugh M'Guire, chief officer Coast Guard, Fair Hill station, Galway; I have been 24 years at sea on board the revenue cruisers.
2. I was two years cruising on this coast, and two years on shore at Fair Hill station.
3. I have been several times in the Shannon and Galway.
4. Yes; we were bound to the Shannon, and lay-to once in a gale of wind and thick weather for two days in preference to running for that port; wind was north-west and west. The commander was never previously in the Shannon, and had no pilot on board; I never made the port of Galway in thick weather.
5. I would lay-to; I would not feel inclined to run in until I could get hold of the land, the soundings are so much alike off the coast of Galway and the Shannon.
6. I certainly would, but I would prefer Galway.
7. *See* 5.
8. Cannot state.
9. Yes, tolerably; I do not think they are strong enough to throw a ship out of her course coming to this port from America; the flood tide runs to the northward, off Slyne Head and Westport.
10. I would prefer Galway, because I have a chance of two sounds here while there is only one at the Shannon; I think they are about equal in other respects.
11. No, sir, I never heard of any except the vessel above mentioned.
12 & 13. Not put.
14. Yes, I think I would know the Connemara Mountains better than the Brandon Hills or any others.
15. No.
16. Not put.
17. Very good, sir.
18. Not within the last two years.
19. They do.

20. Not

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20. Not a heavy sea; it is expended before it gets up to Galway Roads.
21. Not put.
22. It is.
23. Not put.
24. Cannot answer it.
25. They could in good boats.
26. Summer, sometimes very good, sometimes very boisterous; generally boisterous in winter.
27. Yes, generally; it accompanies the gales from the south-west to west. North-west and northerly winds are generally clear; south-east and southerly winds are misty.
28. Not frequent on this coast.
29. *See* No. 27.
30. Spring, summer, autumn, winter, from south to west all the year round.
31. South-west, I think.
32. It is generally heavy, and a heavy swell usually precedes the gales. The sea off the coast here is not, I think, heavier than that which I have seen off Milford.
33. It is not heavy, but I never saw a vessel ride at anchor in a gale of wind.
34. I would freely run for either, but I would prefer the south.
35. I have never been at sea off this coast in the winter; I have been off Westport, and I consider the weather coarse and the seas heavy.
36. They blow violently and last generally about 24 hours or longer in winter, and perhaps half that time in summer.
37. I see no reason; I do not think she would often be prevented running by weather in winter or summer.
38. Galway, because I consider Galway safer to bring up in than the Shannon river; and,
39. I think the sea is heavier off the mouth of the Shannon; I think they are equally easy to make.

— No. 18. —

Sir, Merchants' Road, Galway, 26 June 1852.

In reply to the note of your Committee of this date, requesting of me to supply your Commission with any information on the nautical bearing of the question relating to the subject of a packet station on the west coast of Ireland, I have the honour to enclose a paper specifying the number and class of vessels of war that I saw at anchor at the roadstead of Galway, and all of which left in perfect safety.

The second paper enclosed is a memorandum of the number and class of vessels which have run for Galway Roads in distress, in preference to any other port, many of which missed the Shannon and got to our harbour, where they rode out the gales in safety, a matter of the greatest importance to the naval and mercantile marine department.

I have, &c.
(signed) *James Stephens,*
Harbour and Town Commissioner of Galway.

Ships of War Anchored in the Roadstead of *Galway* in perfect safety.

SLOOPS OF WAR.	PADDLE STEAMERS.	SCREW STEAMERS.
Orestes. Fly. Sappho. Harlequin. Pike. Plumper (gun brig), for 7 years. Andromache (frigate), for about 2 years at anchor, the commander's wife and family on board.	Cyclops. Stromboli. Dragon. Odin. Bloodhound. Rhadamantbus. Albion, in dock. Lucifer, ditto. Shearwater.	Dauntless, frigate, 33 guns, drawing 19½ feet water.

(signed) *James Stephens,*
Harbour and Town Commissioner of Galway.

Galway, 25 June 1852.

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VESSELS which have Run for *Galway* Roads when in Distress.

Date.	Ship's Name.	Masters.	From whence.	Cargo.	Tons.	Where Bound.	Reason for coming to Port.
1850:							
18 Jan.	Anne Elizabeth	Jones	Bangor	Slates	81	Westport	For safety; to the roadstead for this harbour.
25 Sept.	New John Tuhman	Waterion	Glasgow	Coals	56	Limerick	ditto ditto.
7 Oct.	John French	Lynch	Odense, Denmark	Indian corn	298	Westport	In distress, loss of sails.
7 „	Susan	Halliday	Limerick	Oats	82	Glasgow	Windbound.
7 „	New Fame	M'Donough	Roundstone	Marble	59	Dublin	For good anchorage.
25 Nov.	Pilot	Henderson	St. Abes	Salt	73	Sligo	ditto.
3 Dec.	Constante	Rameira	Odessa	Wheat	109	Limerick	Distress, ran to the Bay of Galway for safety.
3 Dec.	Lady Eleanor	Moriarty	Newcastle	Coals	85	Ditto	Ran for the safety of ship and crew up to roadstead, having missed the Shannon, and could not make it.
15 „	Ehz. Nicholson	Nicholson	Limerick	Oats	258	London.	
16 „	John Wesley	Dolby	Galatz	Wheat	141	Limerick	Made several attempts to make the Shannon and failed, the last attempt nearly causing the loss of the ship and crew, only for having Galway Bay to run for, where I came to roadstead in perfect safety.
1851:							
24 Jan.	Union	Jeffrey	Glasgow	General cargo	76	Limerick	Distress of weather, and for safety, to the Harbour of Galway.
19 Mar.	Anne Lætitia	Edwards	Ditto	ditto	78	Tralee	ditto ditto.
20 „	Mary	Hurd	Liverpool	Coals, &c.	97	Ditto	ditto ditto.
14 July	Fanny	Rudolf	Galatz	Indian corn	155	Ballina	ditto ditto.
30 Sept.	Mary Ann	Gorman	Newport, Wales	Ballast	38	Limerick	ditto ditto.
5 Dec.	Ireland	Beach	Quebec	Timber	42	Gloster	Could not make any other port, and had to run for Galway roadstead, where I came to a safe anchorage.
22 „	Pearl (steamer)	Manning	Limerick	General cargo	186	Glasgow	Pumps choked, and could not make the Shannon, had to run for Galway.
1852:							
13 May	Mazurka	Hill	Glasgow	ditto	25	Montreal	Distress of weather, got as far as 17° west, and bore up for Galway, could not make any other port.

Galway, 25 June 1852.

(signed) *James Stephens*,
Harbour and Town Commissioner of Galway.

No. 19.—Answers, 25 June 1852.

1 & 2. Michael Daly, about 20 years master of vessels in and out of Galway, from 60 to 200 tons, principally coasting trade, but some foreign voyages.

3. Yes, very well with Galway, and as far as Foynes in the Shannon.

4. Yes, frequently.

5. By the soundings, I would run for Galway in preference to the Shannon. I could venture more on the north shore than on the south. If a line between Slyne Head and Hag's Head, a pilot could know as soon as he saw the land where he was, from the peculiarity of the landmarks. As regards the south shore, there are no places of safety on that part of the coast, and in making the land from the entrance of the Shannon to the Blaskets, there is no place of safety for a vessel, not even for the saving of lives. The sea runs so heavy in the mouth of the Shannon, that should you need to haul your vessel off, the sea will make a clean sweep over her with a north-west wind. I would prefer Galway also with a south-westerly gale.

6. *See* 5.

7. I am not acquainted with the soundings outside.

8. Not put.

9. I have never experienced any tide outside.

10. *See* 5.

11, 12, 13. Not put.

14. Yes, the Brandon Hills for the Shannon, and for Galway the Twelve Pins and Bunowen Hill. I consider those about Galway, particularly the Twelve Pins, more remarkable than those about the Shannon.

16. I would run 20 miles, south-east by east ½ east, from the North Sound for Black Head, and then haul up for the lighthouse at Mutton Island, steering east ¼ north.

17. There can be no better in the world.

18. The time of the hurricane, some vessels drove, and some held, and in very strong gales.

19. No.

20 No.

21. No.

22. There cannot be a safer anchorage in the world.

23. Not put.

24. She could.

25. Not put.

26. Fine

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26. Fine weather coast in summer, and in winter mild enough; I do not think it is wilder in winter than from Falmouth to the Isle of Wight.
27. Not any way remarkable; I think it accompanies the gales of wind.
28. No.
29. South-west.
30. Spring, north-easterly; summer, north and north-west, variable; autumn, westerly; winter, south-west, flying round to north-west.
31. South-south-west, and thick.
32. Not more so than I have seen on any other coast on the Western Ocean. It precedes the gales usually.
33. No, the water is smooth in the bay.
34. They are all good enough, but I would prefer the south channel.
35. Not put.
36. They generally last from 24 to 48 hours. Never knew any blow very strong, except now and then; these were all over the kingdom.
37. Not put.
38. Galway Bay.—*See* No. 5.

(signed) *Michael Daly.*

No. 20.—Answers, 25 June 1852.

1. Thomas King, master of the "Lord Fitzgerald," of Galway, 129 tons (schooner).
2. Twenty-one years' experience on this coast, on both foreign and coasting trade; last year to America.
3. I am well acquainted with Galway, and have been six or seven times in and out of the Shannon.
4. No, never.
5. I would not like to run until I knew my position; I would lay to until I saw the land or lights.
6. If it were clear, I would run for either Galway or the Shannon at all times.
7. There are no peculiarities which I could trust to.
8. I never sounded but twice.
9. Generally. I cannot say how the ebb and flood run, but with south-westerly winds I always find a set to the northward, about 150 or 200 miles off the coast.
10. I would prefer Galway, because there are three channels that can be taken at all times of tide and in any weather, and my reasons for objecting to the Shannon, are the strong tides, the shoals, and having so far to run up the river before getting a safe anchorage.
11, 12 & 13. Not put.
14. The first lands I look for are the Brandon or Errisbeg Hills, then Hag's Head, and the North Island of Arran, which I can see about 30 miles off in clear weather; the Twelve Pins of Connemara.
15. I have, coming from America, run for Galway Bay in a gale of wind from the westward, under the stay-foresail, and came to an anchor in Galway Roads in perfect safety. It was the winter, day-time and clear weather; I came in at the North Channel
16. If I could see the light I could run with safety (witness could not give the bearing of the light to clear the Blackrock).
17. It is remarkably good.
18. Yes, in a heavy gale of wind in which no vessel could stand.
19. When it blows a very heavy gale of wind outside, it does not blow so strong in Galway Roads.
20. Not to say a very heavy swell, nor not very heavy with a south-west gale, but it is the heaviest.
21. Not put.
22. Perfectly safe; could be anchored in 4 ½ fathoms at low water.
23. Not acquainted with the other parts of the bay.
24. Yes; she would go at all times, except in those hurricanes which sometimes blow, and in which it is impossible for any vessel to sail.
25. Yes, except in gales of wind.
26. Summer, generally clear; winter, wind blows from south-west to north-west; gales are not more frequent than at other places; they sometimes occur.
27. Sometimes we have thick weather when the wind is south-west, not to say much of it. You can see a ship in the thickest weather at the distance of a cable's length, or only 40 or 50 fathoms. In the thick, misty weather which accompanies the south-west gales outside, I could see from one to three miles.
28. They occur perhaps once or twice in the year.
29. North-west.
30. Spring, the most is easterly, moderate breezes; summer, light breezes from westward; autumn, generally westerly, smart breezes; winter, from south-west to north-west, strong breezes.
31. South-west.
32. When a gale of wind occurs, the sea is very heavy; it is heavier than off Plymouth. The swell precedes the gale always.

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Appendix.

33. Smooth water in the strongest gales of wind inside the Arran Island. In every part of the bay you might safely anchor and ride out a gale of wind, except in a hurricane. I would not like to lie there long in a hurricane in my schooner in winter time; I could lie there in any other weather.

34. They are all safe.

35. Yes, sir.

36. They are not very strong gales; the equinoctial gales are the strongest; they last generally from one to three days when they do come.

37. Not put.

38 & 39. Galway.—*See* Answer 10.

Q. If a vessel were to run in in distress, without an anchor and cable on board, which part of the bay would be the best to beach her?—*A.* New Harbour, on the mud, at all times of tide and in any weather.

State what you know of Carrigaholt Roads?—I think it is not fit to remain at anchor in for more than a tide.

Why?—Because a heavy sea sets in with south-west wind, and the tides are strong, and the holding ground is not the best.

How often have you anchored there?—Once, for a tide.

Have you ever anchored at Scattery?—Yes, several times.

What is your opinion of Scattery Roads as a safe anchorage?—I think it is too much exposed to strong tides and south-west winds, the anchorage is about six or seven fathoms.

What do you know of Tarbert Roads?—I have anchored there twice and passed it several times; I consider it a very good place to anchor in, if it were not for the strong tides.

What do you know of Foynes?—I have passed it several times, but never anchored.

Which of the Shannon anchorages would you take if you were running in for shelter in a gale of wind at night time?—Tarbert, if I thought I could make it, but if not I would come to at Scattery.

If a ship had no pilot on board, where would she be obliged to bring up?—Carrigaholt until she got a pilot; she ought not to go beyond.

Do you consider the strong tides in the mouth of the Shannon to be any objection to run for that port in a gale of wind?—I consider the strong tides to be a great objection to run for any port.

Do the tides render the sea dangerous off the mouth of the Shannon in westerly gales of wind at any time?—They make a great sea, especially on the ebb; but I cannot say it is dangerous.

Coming round the Blaskets, bound for the Shannon, if it falls calm, and thick weather with the flood tide, would you be afraid of the tide carrying you to the northward of Loop Head?—I think the flood tide would carry me up the Shannon.

(signed) *Thomas King.*

No. 21.—Answers, 25 June 1852.

1. William Williams, commissioned boatman, Coast Guard.

2. Am living on the west coast of Ireland for the last 10 years, but I know nothing beyond Barna and Blackhead.

From 3 to 16 inclusive not put.

17. It is.

18. I have, sir; it was blowing a heavy gale of wind from south-east; in 1847, February or January, five or six vessels drove at once owing to the wind and sea; the wind veered round to the north-west, and one of the vessels went ashore between this and Hare Island.

19. I do not think it does.

20. South-south-east winds bring the worst sea into Galway Roads; the sea is shorter, but with a south-westerly wind the swell is heavier; still ships ride easier.

21. No, sir, south-south-east wind is the worst there too.

22. I think it is.

23. No.

25. I do not think they would at all times.

26. Not put.

27. Yes, sir, in the fall of winter time, with south-west winds.

28. Not very often; a few in the fall of the year.

29. Southerly winds.

30. Spring, generally easterly; summer, westerly; autumn, south-west to north-west; winter, south-west to north-west.

31. *See* Answer, No. 20.

33. Yes, sir, I would not think it safe for any ship to lie at anchor in the Bay in a gale of wind; I would sooner keep the sea in a gale than bring my ship to anchor between Arran and Mutton Island, but if I thought I could get to the roadstead, I would rather anchor there than keep the sea.

(signed) *William Williams.*

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No. 22.—Answers, 25 June 1852.

1. *Q.* What is your name and occupation?—*A.* Owen Hynes, fisherman of Claddagh; am well acquainted with the Bay of Galway; have been sailing in and out for 40 years.

2. Have you ever piloted any ships to this port?—I have, merchant ships.

3. Have you ever done so in foggy, misty weather?—I have so, viz., once between Arran and Goldenhead; saw no land for three hours, but knew where I was; the vessel was the "Albion" of Galway, 302 tons register; we could not see anything; made one or two tacks; it cleared up, and I brought her up to the roads. If it had remained thick, I would have anchored under Arran.

4. Is there much sea inside Arran?—No, sir.

5. Describe the depths of water from the Arran Islands seawards; also the weather in summer and winter?—I have been fishing between Arran Islands and Slyne Head, and have tried the bottom frequently with my lead, having it greased; 10 miles off the land all the way to Arran the bottom is sandy, with some wormcasts. I am very sure that it is clear sandy bottom from 10 miles off Loop Head to 10 miles off Slyne Head in a straight line outside Arran. Off Arran the summer weather is fine generally; the winter is bad weather, sometimes blowing a gale of wind, and the sea sometimes heavy, but changes to smooth water suddenly.

his
Owen × *Hynes*,
mark.

No. 23.—Answers, 26 June 1852.

1. Austin Yorke, master mariner, and acting pilot of Galway at present.

2. Fifteen years as master and mate.

3. I am, and three times in the Shannon.

4. I have, seven days without observations, sounded in 190 fathoms, in 12° west; sounded while drifting west; thick; not liking to run with the wind on shore blowing strong; decreased sounding to 50 fathoms; thinking I was close to Arran Isles, I bore up for the islands, made them, and run in through the South Channel. If it had been night, I would not have borne up to make the land, not considering it safe unless I had seen the lights on land. On another occasion I did not see the land till within a mile, and saw the breakers, and then ran through Gregory's Sound by the lead. Again, last December, I was piloting a barque from Galway to Limerick, when the wind came foul off the Shannon, and we bore up for Galway, and did not see the land till we made the breakers off the Arran Islands, and then ran through Gregory's Sound. (180 fathoms.)

5. I think not for the Shannon. I would not like to run for any place under such circumstances; but I would prefer running for Galway than for the Shannon.

6. I would for either of the places.

7. I would find my way easier into Galway than to the Shannon, because the soundings decrease coming towards Arran, and they are nearly the same at 60 miles off (north-west of the mouth of the Shannon) as at the mouth of the Shannon. If I struck 60 fathoms off the Skird, I would know I was near the latter by the rocky ground, as the soundings off the Shannon are sandy and gravelly, and 60 fathoms off Arran I think the bottom would be a lighter coloured sand.

8. No, sir.

9. From 20 miles off Slyne Head into the land there is generally a current to the northward; there is an in-draught to the Shannon at the same distance. There is also an in-draught into Mal Bay; this is only a few miles off.

10. Galway.

11, 12, & 13. Not put.

14. Yes. The Twelve Pins of Connemarra on the one side, and the Brandon Hills on the other, are the most remarkable.

15. Not put.

16. Yes, I would, sir; I would run for Black Head, and if it was so thick that I could not see the lights or anything else, I would stay there till it would clear up.

17 & 18. Not put.

19. They sometimes blow pretty strong.

20. With a south-west wind, it does; but nothing to hurt a ship.

21. No, sir; nothing to hurt a vessel if well found.

22. Yes.

23. Not put.

24. She could, sir; she would go to sea better than she could come in.

25. Not put.

26. We have generally more easterly and southerly winds in the summer, and the weather is generally clear. In the winter, strong breezes from west to north-west; sometimes thick, sometimes clear.

27. I think not.

28. No.

29. Southerly.

30. Spring

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Appendix.

30. Spring, generally north to north-east; summer, east to south and south-east, and sometimes west; autumn, north-west and west; winter, variable.
31. South-west.
32. Yes, it is a heavy sea when blowing strong, and the swell usually sets in before the gale.
33. There is a heavy sea on in a gale of wind.
34. I think they are all equally safe.
35. I have frequently. I have seen more dangerous seas off the Bristol Channel than I have off this coast. I think this is a wilder coast than that from Land's End to the Isle of Wight.
36. I have never seen a gale to do harm since the gale of 1839.
37. It is very seldom, I think, that a vessel could be prevented running for Galway. All Galway wants is good pilots.
38 & 39. Galway.

(signed) *Austin Yorke.*

No. 24.—Answers, 26 June 1852.

1. Bartholomew Oliver, of Galway, master mariner and pilot.
2. I have been 16 years in the coasting and foreign trades, sailing out of Galway.
3. Not well acquainted with the Shannon, but am with Galway.
4. I have both, two or three times.
5. I would not, Galway or the Shannon, if it was such thick weather; but if I could get true soundings, even in that weather, I would venture for Galway, but not for the Shannon.
6. I would run for Galway, but I would not for the Shannon.
7. Yes, sir, they are. In thick weather, I would run into 60 fathoms. If I got in 60 fathoms rocky ground I should know I was off Slyne Head; if it was coarse sand with pebbles, I would calculate I was to the southward of Arran; 60 fathoms off the Loop Head is fine sand; 60 fathoms off the Blaskets is rocky; but I would not like to run in so close here. At 80 fathoms out along the coast there are the same distinctions off the ports, but coarser. Approaching the land to the northward of the Arran Islands, the soundings are sand and gravelly, and to the south of Arran it is finer and no pebbles. Off the Shannon, coming near its mouth, it is fine also. The sands at the entrance of the Shannon and the south Arran Channel are much alike 60 fathoms off; Slyne Head is about three miles distant.
9. Coming from sea, there is generally a set to the northward towards Slyne Head. It is not much, though it might put a ship a few miles out.
10. Galway, because I am better acquainted with it.
11. Never; but I have known ships bound to Limerick obliged to put in here. The first one that I knew ran past Loop Head and could not fetch the Shannon. The "Ocean Queen" ran in here last winter from the same cause.
12. I was never in a large steamer, but I think it would not be safe for her to round to in that sea.
13 & 14. Not put.
15. Yes, I have for Galway, but never for the Shannon.
16. I do not think that any wind or weather, except a very dark night or a thick fog, could keep me from running for Galway.
17. Excellent.
18. Yes, there were two or three vessels that were badly found.
19. Yes, pretty severely in winter time.
20. It is broken by the Arran Islands.
21. Very little.
22. Not a doubt of it.
23. Not put.
24. She could.
25. Nil.
26. In summer, fine weather; in winter, pretty severe.
27. Only with light southerly winds, south-west gales and torrents of rain.
28. No, very few.
29. *See* 27.
30. Spring, a good share of north-east; summer, southerly, or south-west; autumn, north-west; winter, south-west to north-west. Gales begin from southward, last 48 hours, and veer round to north-west and clear up.
31. South-west.
32. It is in winter time; it generally gets up before the gale.
33. Not so much sea but that a ship might ride with good tackling.
34. Not put.
35 & 36. *See* 30.
37. Perhaps three or four times. Packets to Galway might be delayed outside; not very well acquainted with the Shannon, but I think thick weather prevails more there than off Galway.
38 & 39. I think Galway, because the foreigners say that after being once there they do not require a pilot.

(signed) *Bartholomew Oliver.*

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No. 25.—Answers, 26 June 1852.

1. Enrico Leva Andri, master of the "Nuovo Carlotta," of Trieste.

2. I have been once in the Shannon with a pilot from Cork, as far as Scattery Roads, and this is my first time to come to Galway. I have had a pilot from Cork now also.

Q. If you had no pilot on board, which would you prefer, coming to Galway or the Shannon?—*A.* I prefer to Galway, because the entrance is very easy.

If you had occasion to come to Galway again, would you take a pilot?—No.

If to the Shannon?—I would not venture again to Scattery without a pilot; I consider it very dangerous.

If you were to charter your vessel at Trieste, in the Mediterranean, in the summer, for Galway or Hamburg, which port would prefer?—Galway, because the navigation is easier. In the winter both are heavy.

(signed) *Enrico Leva.*

No. 26.—Answers, 26 June 1852.

Questions in No. 22 Evidence.

No. 1 (*a*). Bartholomew Donohoe, of Aran Island, fisherman and pilot. I have been fishing outside the Aran Islands 35 to 40 miles for the last 18 years.

No. 2 (*b*). Yes, very often.

No. 3 (*c*). Yes, sir, very often during thick and foggy weather. From the North Channel I would steer south-east for Black Head, and would run 18 miles; I would then alter my course to east and by north and would run nine miles, and anchor if I could not see the land.

No. 4 (*d*). Not much.

No. 5 (*e*). I got, at about four miles off, 30 fathoms, at six miles 40 fathoms, at 10 to 12 miles 50 fathoms, and at 15 miles about 60 fathoms. Off Slyne Head, about 15 miles, there is 60 fathoms; the bottom here is muddy, with long worm-casts. Off Arran, with 60 fathoms, the bottom is muddy, with long worm-casts, and continues so to 34 fathoms after which, excepting the channels leading into Galway Bay, there is foul ground to the shore, and in the Foul Sound the ground is nearly all foul. Off the Shannon the ground is much the same as it is off Arran; at 60 fathoms muddy bottom, with long worm-casts until 34 fathoms, then, unless going up the Shannon, there is foul ground; but, if going up the Shannon, it is muddy and gravelly.

No. 6 (*f*). In the summer time, off Arran, the weather is good, and the same off the Shannon. In the winter, off the Shannon, very heavy seas and much wind; with west and north-west wind it is a desperate place, because of the ebb tide. Off Galway there is never a very heavy sea.

(signed) *Bartly Donohoe.*

No. 27.—Answers, 26 June 1852.

(*a*). Bryan Joyce, fisherman and pilot, from South Arran; for 20 years well acquainted with Galway, but not with the Shannon.

(*b*) & (*c*). I only go five or six miles outside Arran Islands. I have piloted ships in without seeing the land, but getting a glimpse occasionally; but if it would come very thick, I would anchor. I would steer south-half-east from the middle of the North Channel for Black Head, running about 10 miles; I would then steer east-half-north for about seven miles, and if I could not get it clear I would come to anchor. The spring tides in the Sounds run about two knots, and in the Bay about one knot to one and a half. I have very often come up to Galway in thick weather through the South Sound; I live on the South Island. From the centre of the South Channel I would steer east-north-east for 11 miles; if I did not get it clear then I would run half a mile farther, and then would steer east-half-north for eight miles to clear Black Rock, and then east by north.

(signed) *Bryan Joyce.*

No. 28.—Answers, 3 July 1852.

1. William Hamilton Burke, late commander of Her Majesty's revenue cutter "Kite."

2. Served first officer, and frequently in command of first-class revenue cruisers, 1809 to 1816.

3. I am.

4. Frequently; I cannot state the exact number of times.

5. If sure that the ship was steered the course that I ordered, and the log line and glass correct, and confidence in my dead reckoning, I might run for Galway Bay; would hesitate to run up the Shannon, unless I knew the position of the shoals, and set of the ebb tide.

6. I would run for either.

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Appendix.

7. I do not recollect the peculiarities of the soundings.
8. Cannot state.
9. A short distance off the land the tide scarce sensible.
10. I would prefer making Galway.
11. I met one vessel bound for the Shannon that run for Galway Roads.
12. Advantage might be taken of a smoothing that occurs at times after a few heavy seas pass to stop her speed and sound with the patent lead.
13. I would compare with the soundings of the latest survey of the coast, if near the land, and at all times keep a sharp look-out all round.
14. Very conspicuous landmarks at the entrance of Galway near the Shannon.
15. I have run for Galway Roads and Scattery Roads in the Shannon.
16. No hesitation to do so.
17. It is clean good holding ground.
18. I have not.
19. The Arran Islands and Black Head shelter Galway Roads in heavy gales.
20. Not at any time I was in the Roads.
21. A cross sea sets into Galway Roads with south-west and west-south-west winds.
22. Galway has not accommodation for a steam packet drawing 19½ feet water; it is capable, by running out a pier, &c. to afford the accommodation required for steam ships drawing 19½ feet water.
23. No part of Galway Bay so well adapted as Galway Roads.
24. In my opinion it would not be prudent to put to sea in a heavy gale unless the wind was favourable. I have observed the mail packets between Dublin, Holyhead, and Liverpool detained by stress of weather.
25. Not accommodation at present.
26. Summer, variable, winter, changeable, cold, and frequent gales.
27. At times with southerly wind, and when the wind shifts to the westward, it sometimes clears off when a strong breeze sets in.
28. Not frequently; I have observed fogs in the Shannon.
29. Southerly winds.
30. In spring, easterly; other seasons, southerly, westerly, to north-west and north.
31. South-west, and west-south-west.
32. It is heavy, and north-west gales; I have observed a swell precede a gale.
33. Not after you pass the Arran Islands.
34. The South Sound, which is spacious and safe, and when a light is placed on Inishen Islands it will facilitate ships bound to Galway. Gregory Sound is bold to run for, and depth of water for any ship to pass.
35. Served first officer, and in command occasionally of first-class cruisers in 1809 to 1816, on the west coast, and 1819 to 1823, and as commander 1823 to 1849, in cruisers drawing 12 and 14 feet 10 inches; in 1832 was employed four months on secret service (in the "Kite") off Galway, and up the bay each night off the Black Rock, and out to sea by daylight when practicable.
36. At times, in the winter season, they continue heavy two or three days.
37. I do not. Either, if improved, can be made to afford accommodation for steam ships drawing 19½ feet; I would prefer Galway.
38. Were I a stranger I would run for the nearest; if for the Shannon in time to get off a pilot to run me clear of the shoals.
40. I consider Galway Roads capable of being made a safe commodious harbour, that would afford the accommodation required for steam packets drawing 19½ feet.
41. In my opinion by connecting Mutton Island with the main by a breakwater, which could be built at a moderate expense (as the Sound dries at low water), and run out a pier from the south side of Mutton Island a sufficient distance to shelter the harbour from a cross sea that sets into it with south-west and west-south-west wind, should this place be approved of, the harbour would afford the accommodation required for a Transatlantic Packet Station.

I beg leave to suggest, should this plan be carried out, that the railroad be continued from Galway to the pier end, which would afford superior accommodations and comfort to passengers embarking and landing from the packets alongside the pier.

(signed) *William H. Burke,*
late Her Majesty's Cruiser "Kite."

Kingstown, 3 July 1852

No. 29.—Answers, 3 July 1852.

1. C. R. Johnson, commander, R. N.
2. Commanding Her Majesty's steam vessel "Comet," conveying treasure and provisions during famine in 1846 and 1847.
3. Yes, especially the Shannon, having frequently piloted my vessel to Limerick.
4. I forget, sometimes two or three times a week, in and out of the Shannon.
5. Not trusting to soundings, but would by night or day to a good look-out of my own eyes; of course lead going.
6. Yes; the coast is well lighted, and I consider safe for steamers, provided they run their distance and not heave-to.

7. I consider

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7. I consider not; the water is very deep and irregular, and our coasting pilots put no faith in soundings.
8. The soundings are laid down in charts; I am not certain from memory.
9. Yes; the tides split about the Skelligs Hood northward to Blaskets, southwards to Dursey, but do not extend far enough in fair weather to affect your course 20 miles off the coast.
10. The Shannon.
11. Only known strange merchant vessels keep the sea, all alike to them; they drift about, hove-to; frequently lost in consequence.
12. Quite safe if properly handled.
13. Yes, as to depth.
14. No mistaking Loop Head, Kerry Head, and land about Tralee; also Arran, and north shore for Galway.
15. Into the Shannon often; Galway no, neither would I from choice.
16. Not from choice, but if requisite I have no hesitation.
17. I should say, yes.
18. A brig, with corn, was lost while I was in the neighbourhood, but forget the circumstance.
19. Occasionally quite home, but not always.
20. Arran, &c. breaks it, but we rolled much, and decided it an indifferent anchorage.
21. I have not tried it.
22. For vessels of above dimensions not safe. It never struck me the practicability of piers. I think the harbour shoaling fast.
23. For vessels of the above dimensions all too small.
24. Yes.
25. Not safe with women and children; mails, yes. Might do so by going under lee of Arran, &c. at last quarter flood.
26. The same as in the chops of the Channel.
27. Yes, except north-easterly.
28. Yes.
29. With all winds, except from north-easterly, with of course exceptions.
30. The same exactly, as is well known, in the chops of the Channel.
31. After long north-westerly gales, then shifting to the southward of west.
32. I never found it as heavy as I expected from the force of the wind; occasionally, and at full and change, a swell sets in, during winter, before a gale.
33. Yes, on the ebb.
34. To the northward of all.
35. Yes, constantly; it never detained us, even with a deck load of sacks of meal, never damaging a sack; by keeping close in you know your spot, and always a port under your lee.
36. I found them the same, as in the same parallels of latitude all over the world, and with the assistance of barometer you may calculate the strength and durability of gales and weather almost to a certainty.
37. About equal to where they now start from, taking everything into consideration.
38. In answering this question, of course I am not questioned on the chances of war; the expense of making either available; but I should say for passengers (Irish excepted), the risk would be much greater, and the extra fatigue and annoyances likely to happen would cause them to prefer any other mode of conveyance, and send only letters by the packet.
39. The Shannon.

LIMERICK.

— No. 7. —

STATEMENT of Committee appointed by the Municipal and Commercial Corporation of *Limerick*, respecting the Capabilities of the SHANNON.

To the Commissioners appointed to inquire into the relative Capabilities of the River Shannon and Galway Bay as a Western Packet Station.

Gentlemen,

THE present commission of inquiry having been graciously ordered by Government in compliance with memorials from the municipal and commercial corporation of Limerick, the committee appointed by them beg to submit to you the following brief statement.

In considering the relative capabilities of these harbours, the following are the grounds on which, it is submitted, the superiority of the Shannon rests:—

1st. The excellence of its seaward approach; its prominent and well-defined landfalls being the first and boldest land seen by the mariner in approaching the Irish coast.

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Appendix.

2d. Its well-marked and unobstructed entrance, and its well-circumstanced lights, rendering it peculiarly easy of access and egress at all times.

3d. Its several safe and sheltered anchorages; its well-circumstanced harbour at Foynes, accessible at all times and in all tides; and its capacious floating dock at Limerick.

With the foregoing advantages and capabilities, the estuary of the Shannon may be regarded as a capacious well-sheltered harbour throughout its length, possessing all the nautical qualifications necessary to render it a perfect haven, and having Foynes as a great natural floating dock, capable of receiving the largest vessels at all times of tide, affording perfect shelter from all winds, and within two hours' travelling distance of Limerick by river or the common road, or half an hour's by railway, which only waits the favourable decision of your Commission to be at once made.

The Port of Limerick is accessible at spring tides to vessels of the largest class, where a floating dock is now in progress of completion, having an entrance of 70 feet in width. Limerick being a large commercial port, having a considerable trade with America, lying in a due westerly direction to the seat of empire, and centered in a district of peculiar fertility, with railways radiating to Dublin, Waterford, and Cork, it occupies a position for internal and transatlantic communications unequalled by any other towns in Ireland. Its facilities also for telegraphic communications are numerous, affording means of communicating with England *viâ* Dublin and Holyhead, and *viâ* Waterford and South Wales, and also with Scotland *viâ* Donaghadee and Port Patrick.

As regards vessels approaching the Shannon, it may likewise be observed that facilities exist for telegraphic communication from Kerry Head at the 10th degree of west longitude (being one degree west of Galway) to Foynes, and thence *viâ* Limerick to England and Scotland, as well as all parts of Ireland.

In point of expense the evidence taken before the late commission showed that the only outlay necessary to afford the accommodation required in the Atlantic packet service is a suitable landing-stage, or jetty, at Foynes, in connexion with the pier lately erected there, with a few mooring buoys, and probably a small light to show the entrance at night. As regards Galway, on the other hand, it is known to be without a harbour, port, or dock suited for this object; that the anchorage at Mutton Island is entirely exposed to all the winds from south round to west, which are the prevailing winds on this coast; that with the long fetch of 25 miles from the Arran Islands into a wide bay open to the west, very heavy works of an expensive character would be required to resist the heavy swell thrown in in southerly and westerly gales; that the practicability of constructing a harbour at all in that locality, having reference to the stability of the works, proper shelter, and security to vessels, suitable depths, and ordinary expenditure, as well as the probability of the harbour ultimately silting up, is very problematical. That the "landfalls" and approach to Galway Bay are much inferior to the Shannon, and that the homeward-bound mariner, in approaching the coast of Ireland at night, or in heavy weather, ought to make the land south and west of the Shannon, and thence Loop Head, so that if bound for Galway, he must first pass the mouth of the Shannon, and thence along the iron-bound coast of Mal Bay, whilst he might at once make his haven by proceeding up the Shannon, and encounter no further difficulty or danger.

The naval and other evidence appended to the report of the late Commissioners on this subject contains full information on the foregoing heads, the great bulk of which points out the Shannon as the most eligible port in Ireland for this object.

Additional oral evidence can be given by nautical and practical men, which the present Commissioners are now respectfully requested to receive.

(By order of the Committee.)

(signed) *William Randall,* } Honorary Secretaries.
William Carroll, }

Limerick, 29 June 1852.

Witnesses tendered for Examination.

Mr. William Randall, harbour-master of Limerick.
Mr. John Long, C. E., superintending engineer of Limerick Dock.
Mr. John W. Trousdell, Compt. Hall, Customs.
Mr. David J. Jenkins, master of the "European" screw (S).
Mr. Timothy Gorman, master of the ship "Jane Black," of Limerick.
Mr. John Ferguson, master of the ship "Primrose," of Limerick.
Mr. —— Coxhead, master of the barque "Florence," of London.
Mr. Charles Bingham, master of the "Garryowen," river steamer.
Mr. Francis Kennedy, master of the "Erin-go-Bragh," river steamer.
Thomas Waters, pilot; and
Patrick Brenan, pilot.

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— No. 8. —

LETTER from Mr. *Griffith.*

FOYNES HARBOUR.

Sir, Office of Public Works, Dublin, 16 July 1852.

IN reply to your letter of the 12th instant, relative to Foynes Harbour, I beg to say we cannot find among our documents any sections or borings in sufficient detail in the line of 20 feet water at low water spring tides; but this is of no consequence, as a week ago I directed the soundings and borings to be made by Mr. Long at Limerick, who will transmit the information to you as soon as it has been prepared.

As you have not any large plan of the harbour of Foynes, I send one prepared by Mr. R. Gibbons, our harbour engineer, together with a design for a wooden wharf to form a proposed extension of the present pier into deep water, by means of which there would be a landing wharf having a depth of 23 feet at low water spring tides. I also send a letter addressed to me by Mr. Gibbons, giving an estimate of the expense of constructing the proposed wharf.

I am, &c.

Captain Beechey, R.N. (signed) *Richard Griffith.*

REPORT on the Construction of Works at *Foynes.*

Sir, Harbour Engineer's Office, 15 July 1852.

AGREEABLY to your directions I hand in herewith a plan of Foynes Harbour, showing what has been done, and exhibiting in yellow and pink colours what further work I consider would be necessary and amply sufficient to enable the largest class steamers to land and embark passengers and goods at all times, and in all states of the weather. Wharfage accommodation in sufficient depth of water is what, in fact, is wanted; and I am satisfied that the most judicious way to afford this will be by a timber extension of the existing stone pier, in some such manner as is shown. A stone pier in this position would be enormously expensive, and, in my opinion, it would be highly objectionable to protrude a solid structure any further into the tidal channel, besides that the timber structure would be preferred by the commanders of steamers. The cost of what I propose would be about 3,600 *l.* The objection to the wood is its liability to decay, but by guarding against the worm, which may be done, a timber wharf would last for very many years.

I am, &c.

(signed) *Barry D. Gibbons.*

P. S.—If the lineal extent of wharfage shown (namely, 150 feet) should be considered insufficient for one of these very large steamers, there would be no difficulty in, or objection to, prolonging it almost indefinitely in the direction of the dotted lines; whereas the construction of a stone wharf (out into 20 feet) along the contracted entrance to the westward would obviously have the effect of aggravating the tidal velocity, which is already greater than desirable.

Richard Griffith, Esq., LL.D. *B. D. G.*

— No. 9. —

LETTER from Mr. *Hornsby.*

PIERS AND HARBOURS.

Sir, Office of Public Works, Dublin, 1 July 1852.

REFERRING to my reply of the 25th May last, to your letter of the 11th of that month, I am directed by the Commissioners of Public Works to forward the accompanying Plan and Report prepared by Mr. Gibbons, their harbour engineer, and to state that they concur with Mr. Gibbons in preferring the project No. 1.

Such a project the Board would be disposed to recommend to the favourable consideration of the Lords Commissioners of Her Majesty's Treasury, under the Act 9 Vict. c. 3, and 10 & 11 Vict. c. 75.

The Commissioners would therefore suggest to the grand jury, if they are disposed to follow up the subject, also to consider the matter at their next meeting with reference to the 12th clause of the former Act, with a view to the proportions in which the county, or any given district adjacent to Tarbert, should contribute to the project, bearing in mind that the utmost limit to which a Treasury grant can extend under the Act in question is 5,000 *l.*

I am, &c.

(signed) *E. Hornsby,* Secretary.

Henry Stokes, Esq., Co. Surveyor, Tralee.

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Appendix.

PUBLIC WORKS, PIERS, AND HARBOURS, TARBERT, COUNTY KERRY.

Sir, Harbour Engineer's Office, 11 May 1852.

I HAVE renewed my acquaintance with this place by visiting it in obedience to the Board's order, and examined its circumstances carefully, having the benefit of the very admirable surveys made formerly under the Shannon Commission.

With respect to the vicinity of Ballydonoghue Point, which was proposed as an advisable position for a pier at which sea-going steamers may take in and discharge cargo, the close approximation of the shore line to a sufficient depth of water offers some inducement; but even in this particular it has no superiority over the island, while there is greater exposure and more difficulty of being sheltered; for these and other reasons it is quite my opinion that a site on the island should be adhered to.

It has been also suggested to make an open cut between the island and the main, thereby forming a channel through which there would be a tidal current that would prevent silting, and along the sides of which very superior wharfage accommodation may be had in perfect shelter. If the circumstances of the locality were such as to require extensive accommodation and warrant sufficient expenditure, I should be greatly disposed to work out and put before the Board this project, as likely to produce the best and most comprehensive measure; but there would be some uncertainty in the result, and no doubt that it would require funds beyond what there is any prospect of being obtained, and that it would take a considerable length of time to accomplish that which really is most urgently required, namely, wharfage accommodation, in a sufficient depth of water at all times of tide for sea-going steamers to take in or discharge cargo. I have come to the conclusion, after the best consideration I can give to the matter, that to effect the above object for the least money and in the shortest time, the most judicious course will be to construct a stone pier, as shown on the accompanying drawings. The south side of this pier would be a wharf of 200 feet in length, with from 15 to 18 feet of water at the lowest tide, and sheltered from south (round by west) to east, being not only three-fourths of the compass, but also embracing all the prevailing winds. When the wind is between east to south the north side of the outer arm affords sheltered wharfage 165 feet in length, with 13 to 16 feet of water at the lowest tide, while smaller craft would have at all times shelter and accommodation at either side of the inner arm.

It may be apprehended that this solid structure, intercepting the course of the current of ebb which comes surcharged with silt, may cause a shoaling of the space A B C on plan; I do not anticipate that this would take place to any injurious extent: the tidal velocity will still be sufficient to carry along with it this matter held in suspension, and along the south side of the pier, nothing but its being a rocky bottom would prevent a scour to a greater depth, still water being to some extent produced along the west, east, and north faces. Some precipitation may take place, but it would be of slow growth and very weak material, and may be dissipated by leaving an opening for the current through the inner arm of the pier, as shown by the dotted lines.

To gain the deep-water foundations of this work, we may adopt either of the two modes of construction, which differ materially in cost. *See* Cross Sections, Nos. 1 and 2 on Drawing. No. 2 is a platform of promiscuous rubble to the level of nearly low water, on which the wharf walls may be erected. The objection to this is, that the rubble base would project beyond the face of the wharf to an extent about equal to one-fourth of the whole height; that is, where the depth at low-water springs is, say 18 feet, the toe of the slope will extend 22 feet from the face of the coping. In No. 1 the foundations are brought up from the bottom in ashlar hill blocks, set by diving bell or helmet. This is obviously the more superior structure, but the increased cost is little short of 5,000 *l.*; and notwithstanding this serious difference I have no hesitation in recommending it as the more advisable. In moderate weather a sea-going steamer could take in or discharge cargo at No. 2, by the aid of an ordinary gang-board, with ease and safety. But it is very important that the structure should be such that the masters of these vessels would approach it in almost any state of the weather or tide, free from apprehension of touching anything that was not visible above water. This would be the case with No. 1; but I fear that there would be great objection to coming alongside No. 2 in bad weather and low tides. This would cause uncertainty in carrying on the trade, which would be most detrimental to its due developement.

My estimate of the cost of completing the pier agreeably to section No. 1, is 10,300 *l.*, and agreeably to section No. 2, 5,600 *l.*

And, in conclusion, I state with great confidence, that it would be very difficult to point out where a work of this extent would produce so great an amount of public benefit, or be so likely to promote an extension of trade.

I have, &c.

(signed) *B. D. Gibbons.*

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— No. 10. —

Letter from Mr. *Stokes*.

Tarbert, Ireland.

Tralee, 19 July 1852.

Sir,

I have received your letter of the 16th instant, and, thinking it advisable that the Transatlantic Packet Committee should have full information on the subject of the projected improvement at Tarbert, I send you copies of all the documents relating to the proposed pier, which have been sent down here by the Board of Works.

I suppose you have Captain Wolfe's chart of the place, so I send only a tracing of the island, to show the site selected.

I am, &c.

(signed) *Henry Stokes.*

Captain Beechey, R.N.
Board of Trade, London.

— No. 11. —

Letter from Mr. *Stokes*.

At Summer Assizes.

Tralee, 13 July 1852.

Sir,

The enclosed copy of resolution of the grand jury of the county of Kerry at this assizes is sent to you on the suggestion of Sir Matthew Barrington, to let you have early intimation of the proposed improvement of the harbour of Tarbert, on the Lower Shannon.

I have, &c.

(signed) *Henry Stokes,*
County Surveyor, Kerry.

Captain Beechey, R.N.,
London.

County of Kerry, Ireland.—Summer Assizes, 1852.

Resolved, That, with reference to the report and plans of the harbour engineer of the Board of Works, for erecting a pier at Tarbert Island, and to their secretary's letter of the 1st July 1852, the Commissioners of Public Works be informed that we adopt and approve of the Plan No. 1, at the estimate of 10,300*l.*, so as to make a pier fit for the largest vessels and sea-going steamers, and that the Commissioners, in their provisional declaration, under the 12th section of the 9 Vict. c. 3, should constitute two districts for the repayment of a part of the sum of 5,300*l.*, to be applied for by way of loan, and to make assessments of that sum as follows:

	£.
The baronies of Iraghticonnor and Clanmaurice, in the county of Kerry, to repay	1,850
The baronies of Shaind and Glenguir, in the county of Limerick, to repay	1,250
The county of Kerry at large, to repay	2,300
£.	5,400

And we request the Commissioners of Public Works to follow up their letter of the 1st July, by a strong recommendation to the Lords of the Treasury to make an advance by way of free grant to the maximum amount allowed by law, viz. 5,000*l.*, as this work is not only one of great local utility, but may be fairly viewed as of great national importance.

(signed) *W. D. Geoffrey*, Foreman.

— No. 12. —

Resolution of Harbour Commissioners at *Limerick*, respecting Improving the Navigation of the *Shannon* to *Limerick*.

Limerick Harbour Commissioners' Office,
6 July 1852.

Gentlemen,

At a meeting of the Harbour Commissioners, held this day, the following resolution was unanimously adopted by them, in reference to the queries submitted by you to that body; viz.

Resolved, That the Harbour Commissioners do pledge themselves that the necessary lights and buoys, and the dredging of the channel, will be provided and maintained in the manner required in the questions submitted to them by the Transatlantic Packet Committee of Inquiry this day.

I remain, &c.

(signed) *Thomas Kane,*
Mayor and Chairman.

To Captain Beechey and the Gentlemen of the Transatlantic Packet Inquiry.

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Appendix.

— No. 13. —

EVIDENCE TAKEN AT LIMERICK.

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QUESTIONS.

1. What is your name and occupation?

2. What has been your experience on the west coast of Ireland?

3. Are you acquainted with the ports of Galway, and the Shannon?

4. Have you made either the port of Galway or the Shannon in thick weather when coming from sea; if so, how often?

5. Would you, in a steamer drawing 19½ feet water, run for either Galway Bay or the Shannon in thick weather, not having had observations for a day or two previous, trusting to the deep-sea soundings?

6. Is the Bay of Galway or the Shannon of such a nature that you would run for them in clear weather, either by day or night, in a steamer, without having made any previous landfall?

7. Are the soundings off either the Bay of Galway or the Shannon a sufficient guide to those ports in thick weather; and if so, can you state the peculiarities of the soundings?

8. Can you state the depths of water at 5, 10, 20, 30, 40 and 50 miles seaward, giving the nature of the bottom and position of such soundings?

9. Are you acquainted with the set of the tides off the western coast of Ireland; if so, state how they run, and whether they would be likely to throw a ship out of her course in making the land,* more particularly at the mouth of the Shannon?

10. If you were off the coast with a westerly gale and thick weather, and had to run for a port, which port would you prefer making, Galway or the Shannon?

11. Have you ever known any vessel obliged to keep the sea, or run for other ports in preference to Galway or the Shannon on account of bad weather?

12. Do you think it would be safe for a steamer, 290 feet long, to heave-to for soundings on this coast in a gale of wind from the westward?

13. Would you depend upon the soundings obtained under these circumstances?

14. Are there any good landmarks about either Galway or the Shannon by which you would

* To those who were acquainted with the Shannon.

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would be certain to distinguish the situation of either of these ports, and which do you think has the most remarkable?

15. Have you ever run for Galway Roads or the Shannon, in a gale of wind blowing right in?

16. If you were in command of a steamer drawing 19½ feet, having passed the Arran Islands or the Blaskets, would you have any hesitation to run for Galway Roads or the Shannon in a gale of wind blowing right in, at night or in thick weather?

17. Is the holding ground good in Galway Roads?

18. Have you ever known vessels drive in the roadstead of Galway?

19. Do the gales blow home to the roadstead of Galway?

20. Does the heavy sea or swell in westerly gales of wind come home to Galway Roadstead?

21. Is there much sea or swell inside of Mutton Island under such circumstances?

22. Is the roadstead of Galway safe for a steamer of 19½ feet water, and 290 feet long, to lie at anchor during all times of tide and in all weathers; if not, could any practicable arrangement of pier make it so?

23. Do you know any part of Galway Bay that could be more easily made available for a packet station than Galway Roads?

24. Could a steamer drawing 19½ feet go to sea with safety in all weathers?

25. In the present state of Galway Roadstead could steamers drawing 19½ feet embark or disembark passengers and mails in any weather; if not, what practicable arrangements could be made to render it so?

26. What is the usual character of the weather in summer on the west coast of Ireland, and what in winter?

27. Does thick and misty weather often occur on the western coast of Ireland, and do they accompany the gales?

28. Are the fogs of frequent occurrence?

29. With what wind does the misty weather prevail?

30. Can you state the prevailing winds at the different seasons of the year?

31. What wind sends the heaviest sea into Galway Roads, and into the Shannon?

32. Is the sea heavy outside the Arran Islands, and between the Blaskets and Slyne Head, and does it usually precede the gales?

33. Is the sea heavy in gales of wind between the Arran Islands and Mutton Island, and between Loop Head and Brandon Head?

34. Which do you consider the safest of the Arran Channels to run through in bad weather?

35. Have you been at sea on this coast during the winter months; if so, state your experience of the weather and the sea?

36. Do the gales which arise on this coast blow with violence, and do they last long?

37. From your experience on this coast during the winter months, do you think that the wind and sea and dark misty nights, in heavy gales, would be likely to prevent the regularity of the arrival and departure of the mails, supposing either the ports of Galway or the Shannon were made a packet station?

38. Do you know any objection to making Galway or the Shannon a packet station?

39. If a vessel were embayed between Slyne Head and the Blaskets, which would be the safest port to run for, Galway or the Shannon, supposing she could reach either, having no pilot on board?

Additional Queries relative to the Shannon.

1. If you were in command of a steamer drawing 19½ feet water, off Brandon Head, would you have any hesitation in running for the Shannon in a gale of wind and in thick weather?

2. State the best anchorage for a large steamer in the Shannon. State their respective advantages and disadvantages for large steamers?

3. What is the nature of the anchorage at Carrigaholt?

4. Have you ever known vessels to drive from Carrigaholt?

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Appendix.

5. Do the westerly gales blow with as much violence up the Shannon as they do outside?

6. In westerly gales, how far up the Shannon does the heavy sea or swell extend?

7. What wind sends the heaviest sea into the Shannon?

8. In a westerly gale, in thick weather, or at night, would you have any hesitation in running up the Shannon?

9. What sort of an anchorage is Scattery Roads?

10. Is Tarbert a safe anchorage, and would there be any objection to the construction of a harbour there for the accommodation of the packets, from the set of the tides or other causes?

11. If a pier were constructed at Tarbert, would it require to be protected against the easterly winds?

12. What do you think of Foynes Harbour for a station?

13. If the packets drawing 20 feet were to anchor at Tarbert, could small steamers go alongside at all times to take passengers out?

14. If you were constantly making the Shannon from the westward, would you rather have a light upon the Skelligs or upon the Foze Rock?

ANSWERS TO QUESTIONS.

No. 1.—Answers, 29 June 1852.

1 & 2. Michael Crotty, pilot of the Shannon from Loop Head or the Blaskets, to Limerick, for six years. Have picked up and brought in many ships.

3. Well acquainted with the Shannon, not acquainted with Galway.

4. Have often brought in ships in thick weather. If I could see any distance at all, I would run a ship up. If I could not, I would heave-to.

5. If I could see the land, no matter how it blew, I would run the ship up.

7. I cannot say.

9. Yes, sir; the tide runs right out on the ebb, drawing more to north-west, and the flood comes in the same way four or five miles off Loop Head. The general set of the tides off Loop Head, between that and the Blaskets, is in the direction of the land.

10. The Shannon, because it is safer, and I could get an anchorage after getting inside Carrigaholt.

14. Yes, sir, the Blaskets, Brandon Mountains, Kerry Head, or Loop Head.

15. No.

16. Yes, sir, or any ship can run for Carrigaholt Road, and bring up in all weathers.

Q. What is the nature of the anchorage at Carrigaholt Roads?—*A.* It is a safe place and good holding ground, with wind from south-west by west to north-north-west.

What of Scattery?—Still better than Carrigaholt. It is safe with all winds and good holding ground.

What of Tarbert?—It is as good as Scattery; with the west and north-west winds there could not be better; but with the wind from south-east and east it is not so good, if you anchor inside the tides, which is the proper anchorage. The tides are no great inconvenience.

During your experience as a pilot, have you ever been kept outside of this port on account of thick weather?—No, sir.

26. In summer, fine beautiful weather; in the winter, you would very seldom see a gale of wind off this coast now; you would formerly, but not now.

27. Yes, sometimes; thick and misty weather sometimes accompanies the gales, but do not last long.

28. Yes, sir, you would get a few days of fog during the year.

29. Sometimes south, south-east, and south-west, and westerly.

31. From south by east to south by west sends the worst sea into Carrigaholt Roads.

Q. Do westerly gales make much sea in the mouth of the Shannon?—*A.* Yes, sir, especially with ebb tides.

Explain the nature of the sea between Loop Head and the south shore in heavy gales of wind?—On Kilstiffin Bank the sea breaks very violently, but there is no sea at the mouth of the Shannon in particular that is dangerous to vessels.

Which is the best anchorage in the Shannon for large ships 300 feet long, 22 feet water?—Laba Sheeda.

(signed) *Michael Crotty.*

No. 2.—Answers, 30 June 1852.

1. William Randall, harbour-master, Limerick.

2. Formerly shipmaster for about 30 years, sailing out of Limerick for several years, and out of Galway four times. Lived at Galway occasionally during a period of two years.

3. Yes,

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3. Yes, with both; but better with the Shannon.
4. Frequently the Shannon; Galway once or twice, I think.
5. I should be very tenacious of running to either port; but, if I were obliged to run, I would select the Blaskets; but I should not think it prudent, trusting to my dead reckoning and soundings, to run any place between Loop Head and Slyne's Head, unless I had previously made the land; but having made Loop Head I should not hesitate to run for Galway.
6. I think you might safely run for either port in clear weather.
7. I should be very loth to depend entirely on the soundings, which I think too irregular to depend much upon. I do not know anything about the soundings outside Galway.
8. Off the Shannon, 15 miles west of the Blaskets, and then in a line north-south for about 25 miles, I think I would get about 75 fathoms.
9. I have always found that there is a little of the northerly influence of Rennell's current round Cape Clear, some distance off thence to the Blaskets.
10. I would prefer the Shannon; because, first, I would get into shelter and safety sooner; secondly, a wider and better entrance; and, thirdly, that I would avoid the dangerous coast of Mal Bay.
11. Not to my knowledge; except when they got to leeward of their port.
12. I do not think more so than any other part of the Irish or English Channels.
13 & 14. Not put.
15. Not for Galway; but I have frequently for the Shannon, in all winds and in all weathers.
16. *See* Answer No. 5.
17 & 18. Not put.
19. Yes.
20 & 21. I have seen the sea break over Nimmo's Pier in heavy westerly gales.
22. Yes.
23 & 24. Not put.
25. Certainly not. I have seen for three or four days, and sometimes for a week, blowing heavy from the westward, that you could not communicate between the roads and the land.
26. In summer, very variable, with strong westerly winds frequently, but very little easterly winds; in winter the weather is bad, generally more open, that is, more rainy and blowing than in the English Channel.
27. Frequently thick and misty weather accompanies the gales from the south and west-south-west; with gales from the northward and north-west it is generally clear.
28. Not so much as in the English or Irish Channels.
29. Southerly. *See* 27.
30. [Mr. Randall put in a statement of the weather.]
31. Not put.
32. The sea is not heavier than in the Atlantic, and gets up before the gale.
33. The sea is heavy.
34. Not put.
35. Yes, several winters. I generally found that the prevailing winds were from west to west-north-west. The south-west gales do not last so long as they do in the Channels (English and Irish). They change round to west-north-west, and the weather generally clears, but the gale still continues.
36. They blow hard, and last generally for six or eight hours, and chop round to the north-west and west-north-west, and then last double that time.
37. I cannot speak with confidence with respect to Galway; but, with reference to the Shannon, I think the duty could be performed as regularly as at Southampton, Liverpool, Holyhead, or Milford.

(signed) *William Randall.*

Answers to Questions applicable to River Shannon, Mr. *Randall.*

1. No hesitation whatever. If I knew where I was there are no difficulties in the entrance to the Shannon which would prevent my running. Kilstiffin would offer no obstacle, if I got sight of Loop Head or Kerry Head previously.

1 (*b*). I think so. The soundings shoal so gradually towards the Cashen, that, by slowering my engines, I could safely find my way to the lead to make the Kilcredan Light. I would run in 15 fathom water till drawing towards the Cashen.

2. Carrigaholt is sheltered from westerly to north-westerly winds, and from south-south-west to south-south-east, has good holding ground, and very little tides. Scattery is sheltered from west to north-east, the holding-ground good, and the tides slack. Tarbert, well sheltered from north-north-west round by west to south-west, the holding-ground good; the tides for large vessels would be inconvenient; a large vessel would have to lie between the two tides. Labra Sheeda is only fit for small vessels. Foynes anchorage extends from shore to shore, perfectly safe at all times; the tides are strong, but not inconvenient.

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Appendix.

Q. What are the disadvantages of each of these harbours?—*A.* Carrigaholt is open to easterly winds, and also from west-south-west to south-south-west; it is an exposed anchorage; it is not an easy anchorage with a south-west gale; I have never seen any vessels drive from there, and I consider it safe in event of vessels running in. Scattery is open to the south-east. Tarbert is open to the east-south-east and south-east, and the opening ebb runs about 3½ knots, flood about three knots per hour; the tides are strong and inconvenient. Foynes has no disadvantages.

5. I think so.
6. Not above Beal Bar.

Q. In the mouth of the Shannon is the sea heavy in westerly gales with an ebb tide?—*A.* Yes, but I have never known of any accident from it, and I do not think it would interfere with a large steamer, either going to sea or running in, in any weather.

10. Oh, yes; safely as far as Foynes, by my soundings. I should take the soundings from the north shore as far as Scattery, and from the south shore from Carrig Island to Tarbert, and from Tarbert to Foynes on the south shore. No objection at all but the expense, and I should add, its liability to silt up.
11. Decidedly.
12. I cannot add anything to my evidence at pp. 73, 197, and 328 in the blue book, but I will furnish a sketch of what I consider would render Foynes available for a packet station.
13. I should say "yes."

Q. If a steamer could not get into Foynes Harbour, but was obliged to remain in the roads, could she at all times disembark her passengers and mails by means of a small tender or steamer, such as those used at Liverpool?—*A.* Yes.

Are there any circumstances which you think would prevent a steamer of such a size getting into Foynes Harbour at all times?—None whatever except fog, provided it was properly lighted and buoyed.

What is the greatest draught of water you could safely bring up the Shannon to Limerick at neap tides, and what water have you over the sill of the new basin?—Seventeen feet is the greatest draught that I could safely bring up to Limerick, and the water over the sill of the basin is 22 feet.

(signed) *William Randall.*

Additional Evidence, 5 July 1852.

Q. As harbour-master, and having the responsibility of providing for the safety and accommodation of these large steamers, should Foynes be chosen by the Government for the packet station, are you prepared to state that Foynes Harbour is sufficiently capacious, and that the strength of the tides would not offer any objection?—*A.* In my opinion, for all the objects of this service, and for the safety and security of the packets, Foynes Harbour is in every respect qualified.

Can you state the strength of the spring tide, ebb and flood, at Foynes Harbour?—Yes; for the first two hours of the flood it sets into the harbour at the rate of three knots per hour, after which the tide slackens to about two knots. For about one hour at half-ebb the tide sets out of the harbour at the rate of about three knots, for the remainder of the time about 2½ knots.

(signed) *William Randall.*

No. 3.—Answers, 30 June 1852.

1 & 2. Pat. Brennan, Pilot between Loop Head and the Skelligs, Limerick and Galway also, for the last 40 years or over.
3. I am well acquainted with both.
4. Not at Galway; I have into the Shannon, taking charge between Brandon and the Blaskets, steering east by north from the Blaskets to Loop Head. If I were not very far off to the northward of the land, I would get my soundings from 50 to 27 fathoms as I drew up between Loop and Kerry Heads.
5. If I did not know where I was I would not run for any place. I have often gone on board as pilot; it came on thick weather, and I put her head to sea again till it cleared.
6. Yes, by either night or day.
7. I do not know anything of the soundings outside Arran; I would not trust the soundings outside the Shannon.
8. Not put.
9. The tides set north and south off the Blaskets, but at some distance off I cannot say how they run.
10. I would prefer the Shannon. If inside Loop Head I call myself safe, but I cannot call myself safe running for Galway till inside Arran a great distance indeed, because the coast from Loop Head to Arran is an iron-bound coast. I think the sea is heavier off Arran than Loop Head.

15. I have

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15. I have, into both. Once I could not fetch Loop Head, and was obliged to bear up and run into Galway; I anchored there off Mutton Island.
26. Summer: in general, *genteel* good weather. Winter: heavy westerly gales frequent.
27. Not very often.
28. Not many.
29. Westerly.
32. A good lump of a sea, especially with ebb tides.
36. Sometimes very hard, but not often.
37. There are some winters in which she might come in every night, and some in which she would be kept three or four times out.

SHANNON:

3. Good anchorage at Carrigaholt.
4. I never knew a vessel drive out of it.
5. Not put.
6. As far as Beal Bar.
7. Westerly.
8. I would not like to run up in thick weather at night time; I would drop my anchor between Carrigaholt and Scattery; but if a light vessel were on Scattery Shoal I would be all right then.
10. Safe anchorage.

Q. Is there much sea on Kilstiffin Bank?—*A.* Oh, a very heavy sea; I knew a vessel (a Portuguese schooner) wrecked on it; a sea struck her, &c.

12. If a pier was built in a line with her course that I could run the steamer alongside without swinging, I think I could, but in a gale of wind I would anchor at Foynes Roads.

(signed) *Patrick Brennan.*

No. 4.—Answers, 30 June 1852.

1. Timothy Gorman, master of the "Jane Black" of Limerick, 579 tons register.
2. Thirty-six years master, sailing out of the port of Limerick; not acquainted with Galway.
3. Not put.
4. I have repeatedly made the mouth of the Shannon, coming from the sea in thick weather.
5, 6, 7, 8 & 9. Not put.
10. I think she might run for the Shannon in safety; I do not know anything about Galway.
11 to 25 inclusive, not put.
26 & 27. In summer, generally hazy weather, winds prevailing nine months out of the year from west to south-south-west. In summer the weather is variable. In winter heavy south-west winds; the north-west winds are short; they blow hard from north-west.
28. Not very.
29. *See* 27.

Q. Do you find the sea heavy between Loop Head and the Blaskets, in a north-north-west gale?—*A.* There is a long heavy swell, but the sea does not break much.

30 to 36 inclusive, not put.

37. I do not think it would (*see* No. 1, Shannon Questions). I should not expect to be detained one hour at any time.

Answers to Questions relative to the SHANNON.

1. If I could see the land half a mile off, and knew where I was by my latitude, I would steer boldly for a place between Loop Head and Kerry Head. I do not think the soundings from inside Kerry Head are of any use; if the weather is very rough, the sea breaking along the shore will guide me up to Carrigaholt. In 61 voyages from America to Limerick, I have never to my knowledge hove-to for more than two hours on account of thick weather.
2. Labasheda is the best in the Shannon, next Tarbert and Foynes.
3 & 4. Excellent anchorage from 12 fathoms to five fathoms; the holding ground is good, and it is secure anchorage with all winds. I have known foreigners drive, but not when well found.
5. They do, sir, but not so strong outside.
6. Not beyond Kilcraden Point, which breaks the sea and shelters the Shannon.
7. North-west wind.
8. The last voyage I made it was a dark night, and I had to go by the lead, and my compass course from Kilcraden Point up to Tarbert; it was then dead low water. I took my soundings from the north shore, and rounded Scattery in eight fathoms.

(signed) *Timothy Gorman.*

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Appendix.

No. 5.—Answers, 30 June 1852.

1. David James Jenkins, master of the "European" screw steamer, trading to London.

2. I am master on this coast since 1843, coasting trade and Quebec.

3. Was in Galway Bay twice, once in fine weather, and once when it was blowing a gale of wind. I have been 18 times to London, in and out of the Shannon, within these last nine months.

4. I have made the Shannon several times in thick weather, but it was not very thick when I ran into Galway. I have on three occasions made the Shannon from the Land's End without seeing any other lands till I made Kilcraden Point; ran in by my soundings. I would decidedly run into Galway under the same circumstances, having previously made either the Blaskets or Loop Head. I would decidedly prefer the Shannon on account of the great width of the entrance, and the regularity of the soundings from Brandon to Kerry Head.

7. Yes, if I was off Kerry, and to strike soundings in 90 or 95 fathoms, I would steer south-south-east till I got 45 fathoms; then if I did not see the land, I would haul up for the Shannon, steering east, and the soundings would guide me in. I would keep 18 fathoms; I would not shoal between the Heads in less than 18 fathoms. I cannot say anything about the soundings off Galway.

8. At 90 fathoms, in the parallel of Kerry, rocky ground; off Brandon, at 45 fathoms, hard, off the Hag's Island, sand; between the Head there is a bank of 15 or 16 fathoms hard ground, which would be a good guide for me in thick weather, if I struck the sounding upon it. I think the soundings would be sure to keep you out of Tralee or Brandon Bay.

Q. If you were coming round the western coast of Ireland bound to the Shannon, would you rather have the light on the Skellig Rock or on the Foze Rock?—*A.* On the Foze Rock decidedly; coming from the westward it would be advisable that there should be a light on the Foze Rock.

9. On sounding the south-west coast, I have generally found the tide setting to the northward; not enough to affect a steamer's course. Off the mouth of the Shannon there is an ebb and flood stream setting about west by south and east by north about one knot.

10. Not put.

11. Never.

26. Summer, strong breezes, two thirds; winter, much the same as the English Channel, except I think the seas are heavier.

27 & 29. In gales from west-south-west to south-south-west we have generally thick weather, but from west-south-west to north-west it is generally clear.

28. Much about the same as the English Channel.

30. Spring, south-west to westerly winds; summer, south-west to west-north-west; autumn, more northerly; winter, south-west to north-west; very few easterly winds.

33. Yes, the sea is heavy, with westerly gales.

36. I have known them blow heavy from 30 to 36 hours.

37. No, sir; I do not think it would interrupt them. I would rather make the Shannon from America in the vessel I command, than the packet station at Southampton.

38. I think she might safely run for the Shannon. From what I know of Galway, a vessel might as safely run up there into Galway Roads; but I think the anchorage would be far more exposed there, than anchorage in the Shannon, where I should bring up.

Shannon:

3 & 4. The ground is good. A vessel running in from sea with a south-west gale would be safe there. I have never known any vessels drive from Carrigaholt Roads.

6. You break it directly you pass Kilcraden.

7. West-north-west.

8. No. In my own vessel I always run up, night and day; in thick weather I go by my soundings, and at night by the lights, if clear. I would run up to Foynes with any wind or weather, at any time of tide; but in a large steamer, such as a Transatlantic packet, I would have no more hesitation than I would in the Mersey or the Thames.

10. Yes.

(signed) *David James Jenkins.*

No. 6.—Answers, 1 July 1852.

Q. Your name and occupation?—*A.* Francis Spaight, Lloyd's agent for Limerick. My district extends to the whole of the River Shannon, south side, and as far out as Kerry Head and Tralee Bay; on the north to Kilrush.

Have many casualties occurred here, either by wrecks on the coast, or damage from sea and wind?—There have been several wrecks on the coast, but I cannot state the number, one or two in Mal Bay. Several vessels have put into the Shannon, damaged by heavy seas outside off the coast. There is at present in Limerick a French ship, from Panama to Havre, damaged by stress of weather outside, put in here for repairs.

Is-

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Is the rate of insurance higher for ports on this coast than for other ports in the United Kingdom, during the summer or winter?—I think that probably in the winter the insurance is greater to this port than to Cork, from London; but from America the insurance is as low to Limerick as to any port in the United Kingdom.

(signed) *Francis Spaight.*

No. 7.—Answers, 1 July 1852.

1. John Ferguson, master of the "Primrose," of Limerick, 533 tons register.
2. I have been coasting about here for the last 20 years.
3. I was in Galway two or three times, but am more acquainted with the Shannon.
4. Yes, sir; I have run within a few miles in thick weather; I have run in between Loop Head and Kerry Head, when I could not see either, on a voyage from America, with good observations the day before. I have never run for Galway in thick weather, but I came out of Galway when I could not see more than two or three miles.
5. I should not think it prudent under such circumstances.
6. If it was clear, I should not hesitate to run for either place.
7. If the weather was bad, I do not think the soundings could be obtained with sufficient exactness; and under any circumstances a stranger would not be guided by them. I do not sufficiently remember the soundings off Galway Bay.
8. Not put.
9. I am not.
10. For the Shannon, because the anchorage is better, and she could get out to sea again easier. I think it is easier to make the Shannon, because the land is more remarkable and bolder. I do not think the tides are any inconvenience in the Shannon.
11. I have been in a vessel when we would not venture to run in; it was blowing strong, and rather thick.
12, 13, & 14. Not put.
15. I have run into Casleh Bay in a brig of about 200 tons. We left the Shannon bound to Glasgow, north about; the wind was south-west when we cleared Loop Head; as we got along it veered round to the north-west, when it blew a gale of wind, and we lost our water casks, and went into Casleh Bay for shelter; a coast guard took me into Casleh Bay. It is a very good port for small vessels in any wind. I have not run for Galway Roads. I have frequently run for the Shannon when blowing a gale of wind right in; I have run for it in a north-west wind; there is a great sea with that wind.
20. I never found a heavy swell, but the riding is heavy in the chains.
25. I do not think the passengers could be disembarked at that time.
26. In summer, in Galway Bay, it is often thick when it is not here. I once left Galway in very thick weather, and when I arrived at the Shannon I was told there had been no thick weather here; I have often heard from fishermen that this is the case. In summer, off the Shannon, the weather is often clearer than in the English Channel. In the winter, generally on the Irish coast the weather is rough; we have frequent gales in the winter, and occasionally in the summer.
27. Yes, when it is blowing hard you will not see very far.
28. No.
29. Southerly.
30. Spring, summer, autumn, winter. Westerly winds prevail generally on this coast south-west to north-west.
31. North-west or north-north-west winds.
32. Not put.
33. It is heavy, but I have found it heavier some distance to the westward of the Blaskets. I have found the sea off the Blaskets heavier than any place I have experienced.
37. No, I do not know any objection; I think the regularity would be equal to that of Southampton or Holyhead, and I think the danger is less, as there are not so many ships to keep clear of.
38. I know no objection.

Shannon:

1 (*b*). I think I could by my soundings.
3. It is very well to stop one tide. If a ship is well found, she could ride out a gale of wind from the west there.
4. No.
5. They do.
6. Not past Beal Bar.
7. Westerly.
7 (*b*). Sometimes it is for vessels of any size. I have heard of vessels being damaged there by the sea.
8. I would, for in thick weather no pilot, I think, could do it.
9. Very good anchorage.
10. It is, sir. I do not know any objection to the construction of a harbour for packets there; the communication by small steamers could be always kept up.
11. Not put.

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12. I am not acquainted with Foynes Harhour. Foynes Road is a very good anchorage, but I think Laba Sheeda better.
13. *See* 10.
14. I should prefer it on the Foze.
15. Nineteen feet in about four hours. In spring tides I have been towed up in about three hours. It is very awkward navigation. I do not think, in neap tides, a vessel drawing 17 feet water could get alongside the quay. From Beigh Castle up the navigation is dangerous for a large vessel.

(signed) *John Ferguson.*

No. 8.—Answers, 1 July 1852.

1. Thomas Waters, pilot of the River Shannon for 14 years, between Carrigaholt and Limerick.
3. Am with the Shannon, not with Galway.

SHANNON:

2. Carrigaholt, Scattery, Tarbert, Labasheeda, and Foynes.
3. Carrigaholt holding-ground is very good.
4. Never.
5. Yes, sir.
6. As far as Tarbert. Beal Bar breaks it a little; hut there is a long fetch of sea.
7. About west-south-west.
8. I think I would take her to Foynes; but I would not like to go into Foynes Harbour. I would go from Loop Head by the sound of the breakers, if I did not see the land. The lead would be of no use to me until I got abreast of Kilstiffin. It shoals as you get near this bank, and I would use my judgment to keep the ship clear of it. From Carrigaholt I would run on the north shore in eight fatboms, till I judged myself abreast of Beal Bar, or I got a glimpse of the light, and then steer east-south-east for Tarbert; the tides would not throw me out. I could run from Tarbert by my lead on the south shore to Foynes Roads, but would not take the steamer into the harbour.
9. Not put.
10. Yes; there is no great sea there; you can land at all times in a good four-oared boat. A small steamer could land passeugers at any time or weather. If a pier were constructed, I would not, in an easterly gale, like to he on the weather side of it.
11. *See* 10.
12. I am not acquainted with Foynes Harhour; I would not like to try it at night time in a large vessel.
13. *See* 10.
14. Not put.
15. At neap tides, ahout 13 feet; at lowest neaps, in deepest quay; at ordinary neaps, about 15 feet; at common springs, 17 to 18 feet; and at the highest springs, 19 feet.

Q. At what time of tide would you start from Foynes in a steamer drawing 17 feet water, and 300 feet long, to save your tide into the basin at Limerick?—*A.* At about half flood on spring tides. The distance is about 27 miles by river.

(signed) *Thomas Waters.*

No. 9.—Answers, 1 July 1852.

1. Henry Coxhead, master of the "Florence," of London, 179 tons register.
2. No, I have not much experience on the west coast of Ireland.
3. I have been four times to the Shannon, but never to Galway.
4. I made the Blaskets in thick weather last year, so thick that I could scarcely see the length of the ship. I saw the tops of them just appearing ahove the fogs, and immediately knew where I was, and shaped my course for the Shannon, making Brandon, Kerry, and Loop Heads.
5. I do not think that the soundings are a sufficient guide in thick weather, as they are at present laid down upon the chart.
10. The Shannon, because it is easy of access, and the land is easily known. The Brandon Mountains may be seen 50 miles to the westward.
26. In the winter, generally the westerly winds hlow pretty strong on the coast; in the summer, generally fine, but rather hazy outside.

Q. If you were trading to either of the ports, Limerick or Plymouth, from North America, which would you prefer being consigned to, taking into consideration the probabilities of had weather, heavy seas, and misty and thick weather, &c. &c., winter and summer?—*A.* I would prefer trading to the Shannon.

35. I have come home in the fall voyage in November and December, and left again in April. I have no experience in the winter months.
38. None that I am aware of.

(signed) *Henry Coxhead.*

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No. 10.—Answers, 1 July 1852.

1. William Oakes, merchant.

2. Was trading from Limerick to London for 17 or 18 years, as master and part owner of vessels from 160 to 200 tons register. I have been residing in Limerick for the last eight years carrying on business.

3. I am not acquainted with Galway, but am with the Shannon.

4. Yes, sir, the Shannon, frequently, in all weathers, but not Galway.

5. I would. In drawing in towards Brandon I could always tell by my soundings whether I was to the northward of the Shannon's mouth; for if I was in a line between Kerry Head and Loop Head, I would have 25 to 15 fathoms water; but to the northward of Loop Head you will get deeper water till you run ashore, and I think it is the easiest harbour to make that I ever knew.

6, 7 & 8. *See* 5.

10. The Shannon would be the safest, because I can make it with a degree of confidence, and when I make the Shannon I can get into safety. The weather continues thick longer about the Arran Islands than in the mouth of the Shannon.

11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24 & 25. Not put.

26. Winter, generally wild, and there is a good deal of hazy thick weather on the coast, particularly about the south coast, towards Cork, but with us in the Shannon the southerly wind is sometimes clear; summer, fine weather, variable, with strong breezes occasionally.

28. We have fogs, but they are not general.

29. South-west.

30. From south-west to north-west.

31. North-west.

32. I think there is more sea as you stand out to the northward or north-westward. The sea is heavy outside the headlands.

33. In heavy gales you get heavy seas on the bank. North-west from Kerry Head there is a very heavy sea.

37. As far as my opinion goes, they would not prevent the regularity of the delivery, &c. of the mails in the Shannon. I do not know Galway.

Shannon:

3. Yes, very good anchorage.

4. Never heard of one.

5. Yes.

6. Not beyond the Beal Bar.

7. West-north-west.

8. I would not.

10. It is safe in all winds; the worst wind is a north-west wind against an ebb tide; it causes ships to break their sheer. I think a small steam boat could go alongside the ship in the roads at all times of tide, and take out the mails and passengers.

14. I would like a light on the Foze Rock in preference to the Skelligs.

15. I have never seen it but once.

Q. How long have your screw boats been running to London?—*A.* I think since October 1851.

Had any detention taken place to prevent the regular arrivals and departures of your screws, from stress of weather or other circumstances?—No, they have always come as regular as a mail coach.

Would you state your opinion as to the character of the weather last winter, as compared with the usual winters on this coast?—On the whole, a severe open one; we had not those very severe storms that we have experienced in other years.

Will you state what your insurance is in summer and winter between this and London?—Two shillings and sixpence per cent. less in summer than in winter.

(signed) *W. Oakes.*

No. 11.—Answers, 1 July 1852.

1. Michael Murray, river pilot of the Shannon.

2. I have been a pilot for the last 13 years, and acted as pilot in various men-of-war on this coast from Cork to Westport during the famine of 1847.

3. Yes, both.

4. Yes, I have, both night and day.

5. I would, for the Shannon, if I could get hold of the land; I think I would trust to the soundings. The sand is brighter to the northward of the Blaskets than in Dingle Bay. I would not like to run for Galway by the soundings, because the entrance is shut up by the Arran Islands, and the sounds are all foul by broken water and heavy seas, except Gregory's Sound, through which the sea runs truer.

6. I would run for either of them, if the weather was clear, by day or night; but I would prefer the Shannon, because I would sooner get into smooth water.

7 & 8. Not put.

9. At 10 miles off the land I do not think there is any tide, or if any, very little.

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10. If she could lay hold of the Shannon it is the only place for her, because the Shannon is open, no danger from the tides; and altogether there is not so much sea off the Shannon as off the Arran Islands, because the whole drift of the Atlantic is in there; and the islands are very difficult to make out owing to the mist which hangs over them, which is much more frequent than off here. It is a rare thing to see a day's clear weather there. The mist blows away from this coast down there, and hangs upon the land.

11. No.

12. Not put.

13. Never tried for soundings the whole time I have been in Government steamers. We always kept land on board, and ran in for the first port for shelter if it came thick.

14 & 15. Not put.

16. Yes, if I got hold of the Blaskets I would run her; I would be sure to catch hold of the Kilcraden Light, or I would run by the breakers; I would go into Carrigaholt Roads, and let it blow high or low I would have smooth water.

26. Course enough in the winter; when the weather sets in from the south-west it is pretty hazy and thick, frequent gales and strong breezes. In summer the weather is pretty clear, not thick; moderate, and some gales.

27. *See* 26.

28. Not many.

29. About south and south-west.

30. About west and west-south-west are the most common winds and the worst weather.

31. North-west.

32. In coasting vessels bound for Scotland we always preferred going south about to north about, because there is much less sea. When we round the Blaskets we reckon ourselves running away from the sea, and after rounding Cape Clear we smoothen the water.

33. It is the tides help to break the sea.

37. I would run her till I'd catch hold of the breakers or the land.

SHANNON:

1 (*b*). I would for Carrigaholt Roads, sir.

3. A good anchorage; very good holding ground.

4. Never; I have seen them upset their windlasses.

5. Yes.

6. Once above Carrigaholt the sea decreases.

7. West-south-west.

7 (*b*). Why, indeed it is, sir. One morning, going out in the "Alban," we saw the "Stromboli" struck by a sea passing over Kilstiffin, when she washed away her headboards and part of her bulwarks. Ebb tides; wind west-south-west.

8. Yes, I would run as far as Foynes Roads.

10. Yes; but the ebb tide runs strong.

12. I have taken the "Avon," "Tartarus," "Sheerwater," and "Lucifer," into Foynes Harbour. On a dark night or thick fog I would not venture to go in there in a large steamer. I think a large steamer could be stopped alongside the pier; they could always go to sea from it.

13. I am sure she would in a gale (north-west), the worst wind there; and in the "Madagascar" the boats went alongside at all times in order to take meal out.

14. Upon the Foze Rock.

15. About 14 feet at neaps; 21 at ordinary springs.

(signed) his *Michael* × *Murray*. mark.

No. 12.—Answers, 1 July 1852.

John W. Trousdell, Comptroller of Customs.

Has been over 40 years officially located on the west coast of Ireland. Has had the movements of the revenue cruisers under his control, before placed under that of the coast guard. Has sailed in and out of the Shannon in all weathers, night and day; knows nearly all the harbours on the Irish coast; knows Galway as well as the Shannon. Would run for the latter in bad weather when he would not think it prudent or safe to run for the former; considers the Arran Islands, and dangers of Mal Bay, particularly at night, the difficulty, as no straight course from the west will take a ship through any of the sounds of those islands, and of a dark and stormy night it is impossible to mark the exact point to diverge at, when a ship's length too soon or too late must be fatal.

Having the mouth of the Shannon open it may be run for with great confidence in the worst weather, hence all the casualties that occur on the west coast, such as ships disabled, short of provisions, or forced by stress of weather to seek a harbour, invariably make for the Shannon.

I have known East and West Indiamen, and troop ships, after trying to get up Channel, and being obliged to bear up, run for the Shannon in preference to any other harbour. I have known vessels from Galway after being obliged to bear up, run for the Shannon in preference

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preference to returning to it, considering they would be more to windward, and in a fairer way for a fresh start. I have been river inspector of the Shannon for a long period. I think I know its capabilities. I consider it far superior to any other harbour on the west coast, and the easiest of access. All the navy may ride afloat in perfect safety from Kilcraden Point to Beagh Castle. And vessels drawing over 20 feet water may come into the dock at Limerick at tide time, when finished.

There are a few trifling obstructions in the channel between Beagh Castle and Limerick, which are intended to be removed, and which will make the reach of the river safer.

(signed) *J. W. Trousdell.*

List of Casualties.

(List, No. 1.)

1st. I can only state from memory a few cases, the records of office being left at the respective stations on the coast to which they belonged.

The most serious casualties invariably occurred between Slyne and Loop Heads, such as the loss of the "Martin," sloop of war; the West Indiaman, the "Wilham;" the Norwegian ship, the "Deradler;" the Swedish ship, "Anna Sophia;" the emigrant ship, "Edmond;" the "Glenadle," from the river Gambia, &c.; the "Intrinsic," and all hands, and others whose names I do not now remember.

2d. A list of vessels in distress, which have run into the Shannon to take shelter, for the last 40 years, would make a voluminous catalogue.

I remember the names of only a few. The ————, name I forget, from Senegal, with gum; the "Emily," timber-laden; the "Dædalus," a Niemen ship, with cotton; the "Elizabeth," East Indiaman, dyestuffs and spices; the "Barossa," with troops from Ceylon; the "Magnifique," from Porto Rico; the "Superb," from Alexandria; the "Atalanta," from St. John's; the "Chusan," from New Orleans; the "Arab," from Venice; the "Ocean Bride; the "Windsor Castle," dismasted off Cape Clear; the "Alice Bentley," from Liverpool to ————; the "Louis Eleone," from Tuspan to Havre de Grace.

Vessels from Galway which have run into the Shannon in preference to returning to it.

One (name I cannot now recollect) with marble blocks, for New York; the "Alarm," with wool, for Ostend; the "Jane Watson," with emigrants for New York; the "John," with emigrants for New York, and several other emigrant vessels, the names of which I cannot now remember.

N. B.—Contrast the case of the "Martin," sloop of war, List, No. 2, with that of the "Windsor Castle," List, No. 3, and a homeward-bound timber ship, List, No. 4, with instances of easy access to Shannon, List, No. 5.

1 July 1852. (signed) *J. W. T.*

(List, No. 2.)

The Case of the "Martin," Sloop of War.

The "Martin" was caught between Slyne and Loop Heads in one of those storms that occur on every coast, owing to the indraft and send of the sea (wind west); she would not weather the land on either tack, and thus became land-locked, with that frightful abyss "Mal Bay" yawning to receive her trembling frame.

It may be asked, Where was that asylum harbour of Galway, so lauded by an eminent counsellor as "a leeward harbour of refuge," with the great natural breakwaters of the Arran Islands to shelter it? I answer, Where it now is, and must ever remain, a blank, under similar circumstances with these very islands, their foul, and triple and tortuous sounds, a barrier to its ever becoming available as a harbour of refuge.

Lieutenant Broad, R.N., states "once inside the Arran Islands," but he does not describe the difficulty of getting inside, which is simply that you cannot, of a dark and stormy night, run upon a straight course through any one of the three sounds; and Captain Hanley, R.N., states that Galway Bay may be run for, provided the Arran Light could be seen at a moderate distance; but every seaman knows that the drift and spray of the sea in a storm and mist prevent a light being seen, until you have nearly run it down.

To return to the "Martin." Sooner than run the gauntlet of these Arran Sounds, the gallant crew trusted to Providence, on their knees in prayer, on that dread night, with the ship hove-to, until at length every shred of canvas was blown from the bolt-ropes, and the ship soon after struck a rock with a dreadful crash, the masts going by the board, and, next morning at daylight, I had the satisfaction to see that noble band of seamen walk out in safety, not in Galway Roads, but on the Queen's high road at Seafield, where the

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Appendix.

topsides and gun-deck of the "Martin" (forming a raft that no human aid could have furnished under the circumstances) carried them in safety, the ship having left her bottom on the Gaude Rocks, where she first struck, far out in the bay, so that here was a providential deliverance from the Charybdis of Mal Bay—its very name denoting evil or bad.

1 July 1852. (signed) *J. W. T.*

(List, No. 3.)

The Case of the "Windsor Castle."

The "Windsor Castle," a large ship, over 800 tons burthen, was dismasted and abandoned off Cape Clear. Having drifted northwards along the coast, several attempts were made to get her into one or other of the numerous harbours that abound on that part of the coast, but without success. She was north-west of Loop Head when observed by the pilots of the Shannon, who with their frail canoes (wicker boats covered with canvas) succeeded in towing her in safety into the Shannon, for which they were awarded a salvage of some 5,000 *l.* or 6,000 *l.* Had she got a little further to the north she would have shortly gone to pieces in Mal Bay.

1 July 1852. (signed) *J. W. T.*

(List, No. 4.)

The Case of a Timber Ship homeward-bound from *America*.

This ship having had a good observation before making the land, shaped a course east half south (by compass) for the Shannon. On the night of the following day one of these autumnal flurries or gales came on, and whilst the master and crew were shortening sail and making the ship snug aloft, not expecting to sight the land until next day, suddenly a man on the forecastle sung out, "Lights close under the larboard bow;" the helm was placed hard a port, and an anchor let go, all standing, which held. Next morning the master found himself under the shelter of Hog Island Cliff, in the Shannon, without the loss of a rope yarn, and without well knowing how he got there. The lights were those of the pier head at Cappa and a fleet of yachts* lying there during a regatta. The ship had run upon the above course, which it will be seen had taken her through the North Channel, and I do not know any other harbour on the west coast a ship could have escaped being wrecked under similar circumstances.

1 July 1852. (signed) *J. W. T.*

(List, No. 5.)

Instances of Safe and Easy Access in running for and making the Shannon.

In coming through the sound of the Blaskets at nightfall one of these sudden breaks in the weather occurred, when to return was more dangerous than to progress. Having got well through the intricate passage, a captain R.N. said he thought it would be most imprudent and dangerous to run for any harbour on the coast such a dark and stormy night; a few hours' run, however, convinced him of being in safety in the Shannon, which, as described by a high naval authority, is "all harbour." You may anchor anywhere there on the river.

Again, in one of these very rare instances of a fog on the west coast of Ireland I got a glimpse of the pinnacles of the Skelligs (above the fog), which enabled me to shape a course clear of the Foze Rock, and with an east wind, without seeing a bit of land until I observed the perpendicular white wall under the lighthouse at Kileridan.

I beat a 50-ton cutter to moorings at foot of Cappa.

The soundings off the mouth of the Shannon are so well defined and laid down, there can be no mistaking the entrance.

I can produce the chart with the cutter's courses as pricked off at the time, and I consider it would have been much easier with a steamer to have made a straight course all the way.

I do not know any other harbour on the west coast of Ireland I should have ventured to beat into under similar circumstances.

1 July 1852. (signed) *J. W. T.*

No. 13.—Answers, 2 July 1852.

1. Charles Bingham, master of the "Garryowen" steamer.
2. Am 20 years in command of steam packets on the Shannon.
3. I was only once in Galway; am acquainted with the Shannon.

4. Yes,

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* The rules of yacht clubs oblige each yacht to have a light at masthead during the night.

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4. Yes; the Shannon, three or four times.
5. I certainly would not in very thick weather.
6. No danger.
7. Never tried the soundings.
8. Not put.
9. No.
11. No.
14. Certainly; for the Shannon, with which I am acquainted.
16. No, provided I got hold of the Blaskets.
26. In summer, clear, and something like the English coast; in winter, a good deal of strong south-westerly winds, and thick weather.
27. Generally comes before the gale, which clears it off.
28. No, not much foggy weather on the west coast, but a good deal in the river.
29. *See* 26.
30. Spring, summer, autumn, winter, westerly prevails.
31. West-south-west to west-north-west.
35. Gales seldom last long; violent gales last, perhaps, five or six hours, ordinary ones 18 to 20 hours, and strong winds for a couple of days.
37. No, I know no objection; I think the arrivals and departures would be made with as good regularity as at any other port in the United Kingdom.

SHANNON:

1. Certainly not.
1 (*b*). I could not; I am not acquainted with the soundings.
2. Carrigaholt, Scattery, Tarbert, Foynes, Labu Sheeda, and Beagh Castle.
3. It is.
4. I have, but it might be from neglect.
5. They do.
6. As far as Beal Bar.
7 (*b*). It is very dangerous when it breaks, but there is plenty of room at either side of it.
8. No, I would not.
9. Very good.
10. Yes, cannot answer.
12. Foynes is a very safe, nice harbour.
13. Yes, at all times.
14. A light is much wanted on the Foze Rock.
15. I have towed vessels drawing 20 feet up from Foynes to the quay in about four hours.

(signed) *Charles Bingham.*

No. 14.—Answers, 2 July 1852.

1. William Bishop, master of the "City of Limerick" (s.), trading to London.
2 & 3. I have been to sea for 43 years; traded 10 trips in and out of the Shannon, never to Galway.
4. Yes; the Shannon, in west-south-west gales, and thick rainy weather, but saw the Skelligs in the offing.
5. I should say she would be quite safe in approaching the Irish coast by her soundings. I found my way into Clew Bay by my soundings; under such circumstances, I should consider myself perfectly safe by attending to my lead, and the distances.
8. I always go by my chart.
9. Yes, I should think there is little or no tide 10 miles off.
10. I should prefer the Shannon, because I should meet with an anchorage and shelter sooner; I think the Shannon safer with a westerly gale than Galway, anchoring at Carrigaholt or Scattery Roads.
16. I should think it would not be prudent to run for either port.
26. In winter the weather is given to be thick and blustering; but the last winter was uncommonly favourable and clear. In summer, breezy and hazy at times.
27. Yes, with wind anything south or west, I think the weather is the same throughout Galway Bay.
28. Fogs are not frequent, but more so than in the English Channel.
33. Yes, with west-south-west, or west-north-west winds.
37. I do not think there would be more interruptions than at any other port in Great Britain; although, as I said before, there is more thick weather, and I think the sea is less when you get round Cape Clear.

SHANNON:

3. I consider it good for a vessel to take shelter in for a temporary anchorage.
4. No.
5. Not after you pass Kilcradan.
6. It expends itself on Beal Bar.

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7. Westerly; into Carrigaholt, west-south-west.
8. I should prefer stopping at Tarbert from my own knowledge of the river; but I should have no hesitation in trusting my ship with a pilot to Foynes Roads.
10. Yes; I consider it safe; it is a good anchorage.
12. I am not acquainted with it, having never been in it.
13. Yes, sir.
14. I should prefer the Foze Rock by all means; if it could not be put there, I should prefer the Tiraght, but I would not like the Skelligs Light to be taken away.

(signed) *William Bishop.*

No. 15.—Answers, 2 July 1852.

1. John Long, esq., civil engineer, employed by the Board of Works, constructing the new basin at Limerick.

Q. What arrangements would you propose to make at Foynes for the accommodation of landing mails, passengers, and cargoes?—*A. See* the answer to the question at the end of this evidence.

With an east-north-east gale, and a strong flood tide, do you think steamers would be able to lie alongside the floating jetty, and discharge or take in mails, passengers, and cargoes?—If it be necessary to provide against such a gale, which seldom occurs here, a second stage might be erected lower down, so as to bring the steamer under the shelter of Barneen Point.

How would you propose to connect the railway with the jetty you allude to?—The railway will join on to the jetty; but I will give you a sketch, showing the proposed jetties and railway connexion.

How do you propose to get a large transatlantic steamer up to Limerick for the purpose of docking or being repaired, as we find a difficulty in the depths of the river at nine miles above Beagh Castle, and others at the Cock Rock, and at Little Kilrush?—I view those obstructions as very inconsiderable, and I have instructions, and a fund provided for the dredging of these places to the depth of six feet at ordinary spring tides (or the standard of the Admiralty charts) to the ordinary width of the channel throughout.

The channel of the river high up will be very narrow for such large vessels, and will require to be carefully buoyed in narrow parts; has this point been considered by the Harbour Commissioners?—I believe it has not met with consideration from the Harbour Commissioners; but I believe if it was laid before them they would have the necessary buoys placed at the respective places, as the expense would be very inconsiderable.

What water will there be over the sill of the basin at Limerick at high-water neap tides?—I have not compared the depth of the sill with the standard of the chart.

What is the depth of the sill of your basin below the Ordnance datum, or copper bolt, mentioned in the Admiralty chart?—I will furnish it.

What extent of wharfage will there be in the basin?—2,300 lineal feet wharfage.

What will be the width of the entrance of the basin in the clear when finished?—Seventy feet in the clear.

What is the area?—Seven and three quarter acres; length being 800 feet, and average breadth 400 feet.

If a steamer were unable to get into the basin from any cause, is there any place where so large a vessel could be grounded with safety?—Yes, at the outer wall of the dock, where the bottom is soft mud to a considerable depth, that wall being built upon piles.

You are aware that at the Coburg Docks at Liverpool great difficulties arise in docking and undocking the Cunard steamers, and looking at the comparative ranges of tide which you have just shown as between the Limerick new basin and the Coburg Dock, state the advantages, if any, which you possess?—By the table which I now hand in it will be seen that there can be no difficulty at spring tides, at either place, being about the same height of water, 23 feet 2 inches; but a considerable advantage occurs in favour of Limerick in respect to neap tides, the height of average high-water neaps at Liverpool being 16 feet 3 inches on the sill of Coburg Dock, whilst that on the sill of the new dock at Limerick is 18 feet 6 inches; and at the lowest neaps the height at Liverpool is 14 feet 3 inches, whilst that at Limerick is 17 feet 3 inches.

It will be seen by the table handed in that the advantage at Limerick is very considerable during the tides that the depths are most required.

Have you considered the necessity of providing for a dry dock, or slip, for examining those steamers' bottoms at Limerick, should that be required?—The present accommodation would not answer for vessels above 300 or 400 tons. It is a patent slip; but no dry dock or other place where so large a steamer could undergo such repairs or examination exists here.*

What

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* A graving dock ought to be constructed alongside the new floating dock, the cost of which might be set down at 20,000 *l.*

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What means are there of repairing machinery or boilers of large steamers at Limerick?—Since I answered this question last year (*see* page 202 of the Commissioners' Report) no great extension has occurred in the foundries or forging establishments at Limerick, but these wants would doubtless be supplied as soon as the necessity would arise for them.

(signed) *John Long.*

Q. What arrangements would you propose to make at Foynes and Tarbert for the accommodation of landing mails, passengers, and cargoes?—*A.* Steam ships of so large a class would require works of a very substantial nature. At first it might be desirable that these works should be of a temporary character, so as to limit the outlay as much as possible; but arrangements even of this nature would be expensive, and considering the unusual facilities for building on a large scale which exist at Foynes, I would be disposed to construct the works of a permanent character at once, limiting them in point of extent to what might be immediately required. I have accordingly sketched a permanent quay wall of stone on the chart, extending westward from the small new harbour to the point of rock where the salmon fishery now stands. This would give a length of about 1,000 feet, equal to the accommodation of three steamers, where they would be sheltered from every wind, and with two vessels in the anchorage more to the eastward, five vessels would find easy and sheltered accommodations. A large extent of wharfage would also be obtained, extending back to the road, and connecting with the projected railway from Limerick, so that the trains might be brought down upon the wharf

To give 20 feet in depth alongside the wharf at all times of tide, the foundations should be laid with the diving-bell, and I estimate the cost at 45,000 *l.*, including the cost of a groyne of rough stone run out from the isle, to mask the harbour from the north-east. I apprehend that, with this expenditure, every accommodation in point of shelter, depth of water at all times of tide, and the means of loading and embarking mails, passengers, and cargo would be provided. As regards the temporary accommodation that might be required until these works would be completed, the use of a small steamer would supply the means of conveying the mails and passengers the few cables' length from the vessel to the present pier, or *vice versâ*, and the coals and cargo might in like manner be transferred by means of lighters, or a floating coal depôt might be made use of, which could lie at anchor and be moored to the vessels as required.

As regards Tarbert, the same advantages do not exist as at Foynes. It is more extensive, but not so well sheltered, which would therefore render it necessary to construct works of a more extensive character; and as the facilities for building are not so much available, the works would be more costly. It is, however, a most excellent and favourite anchorage, and, to render it available for the purposes of a transatlantic packet station, I am of opinion that a floating dock accessible at high-water neaps with 20 feet draught would be necessary, together with a timber staging accessible at all times of tide. Timber is proposed so as to present no interruption to the full run of the tide, and the staging is so arranged that it affords a mask to the entrance of the dock. At first this staging only might be erected when the vessel should move out to the anchorage after landing her mails, &c.; but to afford the necessary shelter, I apprehend a dock would be required, the wall of which at first might be built only on three sides sufficient in length for five steamers, leaving room for the fourth side to be built as might be required afterwards. The probable cost of this dock so built would be 55,000 *l.*, and the staging say 20,000 *l.*

(signed) *J. Long.*

Mr. Long explained by a map the manner in which it was suggested by the statement given to the Committee at the first intercourse of the Harbour Commissioners. A telegraphic communication of the approach of the packet could be made from Kerry Head to either Foynes or Limerick, so as to facilitate the arrangement of the trains and expedite the dispatch of the mails and passengers; 1,000 *l.* would be about the cost of a telegraphic wire from Foynes to Kerry Head, or 30 *l.* per mile. On the arrival of the vessel off Kerry Head at the mouth of the Shannon, intelligence could be conveyed to the station at Foynes, giving two and a half or three hours' notice of her approach, by which means sufficient time could be given to have the trains ready for starting with the mails immediately after her arrival. In like manner the out-going steamer might be countermanded, or important intelligence conveyed to the vessel three hours after sailing. In moderately clear weather the vessel might be seen at the 10½ degree of west longitude, and at night or hazy weather blue lights or the discharge of a gun would intimate her approach. The advantage of this arrangement might also, as necessity would require, be extended even to Brandon Head, and this intelligence conveyed from the 11th degree of west longitude.

He also explained that by the adoption of the Shannon for the object of a packet station two routes would be available to the seat of empire, *viâ* Dublin and Holyhead, and *viâ* Waterford and South Wales, which would afford the means of obviating any monopoly in so important a line of communication such as might arise in the case of Galway, where but one route would exist.

(signed) *J. Long.*

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Appendix.

Questions, &c., respecting *Tarbert.*

Q. Can you give us any information with respect to the extension of the railway to Tarbert, if that should be found necessary?—*A.* I believe there would be no engineering difficulties, as such a line of railway has been under the consideration of Government, and was surveyed, and will be found in the Irish Railway Commissioners' Report of 1836, and subsequently by private parties in 1845.

How would you propose to provide shelter at Tarbert for the packets, if that port should be determined upon as a station?—I should provide a wet dock, in which they could enter at high-water neap tides, and come out loaded.

Will you be so good as to furnish the Committee with a rough estimate of the expenses of such a basin?—I will furnish it.

(signed) *John Long.*

Comparative Statement of the Height of the Tide on the Sill of the Coburg Atlantic Dock, *Liverpool,* and on the Sill of the New Dock, *Limerick.*

TIDES.	Liverpool Atlantic Dock (Coburg).		Limerick New Dock.	
	Ft.	*In.*	*Ft.*	*In.*
Average high water springs	23	3	23	2
Equinoctial spring tides	25	0	25	0
Average high water neaps	16	3	18	6
Highest neap tide	18	9	19	9
Lowest neap tide	14	3	17	3
Total	97	6	103	8
Average	19	6	20	9

Note.—The inside of the Limerick Dock is 18 inches below the sill. The sill of the Limerick Dock has been laid eight inches lower than the depth referred to in the tide tables in page 306 of Transatlantic Commission Report of 1851.

Limerick, 5 July 1852. (signed) *John Long.*

No. 16.—*F. W. Russell.* Esq., 5 July 1852.

Q. Will you have the goodness to state what are the present facilities in Limerick for the repairs of the machinery and boilers of steam vessels, as well as the stowage of goods?—*A.* There are already in Limerick facilities for the repairs of the machinery of the smaller class of steamers, viz., at Riding's, at Harrison Lee's, and at J. N. Russell & Sons, where can be repaired the machinery, &c. of the class of steamers and other vessels now frequenting the port, and there is ample stowage for goods.

Do you think that these wants would be fully supplied, should the necessity arise; that is, should the Government make choice of the Shannon as the station of the transatlantic packets?—Yes, my own firm (J. N. Russell & Sons), are now about to erect a foundry and other workshops, with tools sufficient to execute the works necessary for the repairs of first class vessels fit for transatlantic navigation.

Do you think that one line of transatlantic packets (say eight steamers) would afford sufficient employment to such a factory, so as to yield a return for the capital sunk in its erection?—With the other work which will have to be performed for general purposes; at least we shall take the risk upon ourselves. From our experience, we have ascertained that turf fit for raising steam for land engines stands at a price equivalent to coal at 8 *s.* per ton, this being one of the inducements to erecting those works; and the facility of communication between Cork, Dublin, and Liverpool will give a command of any additional labour within 24 hours at the farthest.

Do you think these repairs would be executed as cheap as they are at present at Liverpool, where competition is so great, and iron and coal on the spot?—I think fully so; as owners of vessels ourselves, and acting jointly with others independent of us, we prefer executing the repairs necessary for our vessels here, to having the work done elsewhere.

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No. 17.—5 July 1852.

Michael Ryan, Esq., American Vice-Consul, of the Firm of Messrs. Ryan, Brothers, and Company.

Q. Have you considered what would be the probable cost of Welsh steam coal, if a contract were entered into for supply of the transatlantic steamers at this port?—*A.* I should be happy, that being part of my own business, to contract for the supply of forty or fifty thousand tons, or any greater amount per annum, at the rate of 14*s.* per ton, delivered on board the steamers.

Do you think that this large supply of coals here would increase the rates of freight from Wales, or would you be enabled to supply these vessels with a sufficient back freight?—I do not think it would affect the rate of freight from Cardiff, as vessels are constantly coming in ballast from the Bristol Channel, for the prospect of getting outward cargoes at Limerick; and whether vessels come here with coals or not, they must come to supply the outward trade. At present, owing to the great amount of emigration from this port, and the prospect of its continuance, large vessels are arriving from the Bristol Channel, and adjacent ports, chartered there, to take passengers from this port to North America; these would bring coals here at a very moderate rate of freight, considering this port is on their route to America, and the outward passage freight being a very productive employment.

Have you any information which you would like to give bearing upon the nautical question of this inquiry?—From my own experience as a nautical man, and having sailed out of the Shannon, it is my opinion that there is no port in Ireland so easily made as the Shannon from the westward.

(signed) *M R. Ryan.*

No. 18.—Sir *Mathew Barrington*, Bart., 5 July 1852.

Q. Are you in possession of any plans which will show the manner in which it has been proposed to connect either Foynes or Tarbert with the railway to Limerick?—*A.* I give you a copy of the plans deposited in Parliament, in the late session, for connecting the Dublin and Limerick Railroad with Foynes, and also maps and plans showing how it can be extended to Tarbert.

Have you any estimate of the expense that would attend the execution of these works?—The estimate for making the line to Foynes is 120,000*l.*, and is deposited in the Parliamentary Office, London; the distance is 24 statute miles, and the extension of the railway to Tarbert would be at the same rate of 5,000*l.* per mile; the distance is nine miles.

Would a company undertake them at their own expense if a packet station were to be established at either of these ports?—I have no doubt of getting a company to make the railway to Foynes or Tarbert, provided that the packet station were established there.

If either Foynes or Tarbert were made a packet station, what authority would undertake to supply the money for the construction of the piers and other works which would be necessary?—I apprehend that the money would be raised by a loan, as that for constructing the Limerick New Basin was.

(signed) *Mat. Barrington.*

No. 19.—5 July 1852.

Question referred to *George Fenning*, Esq., Underwriter, Lloyd's, Royal Exchange, London.

Q. Will you have the goodness to state whether a higher rate of insurance is charged for vessels bound from abroad, or from the home ports to the western ports of Ireland, say Galway or Limerick, or whether you think the rates of insurance would be increased upon the transatlantic packets should the Government think it desirable to make the packet station at either of those ports instead of Liverpool or Holyhead?—*A.* The enclosed copy of an answer to Lord Hobart, in December 1850, is, I think, exactly what you require. I find from the Committee that their opinion is still the same. The fact is, that although there may be, and no doubt there is, a difference of opinion amongst underwriters as to the desirableness of the various ports you refer to, yet the truth is, that if the Cunard's, or the Peninsular and Oriental, or the Royal Mail boats came to the west coast of Ireland instead of Liverpool, Southampton, or Falmouth, the bodies of the vessels, and the goods and treasure, out and home, would be insured at the same premium as now; there would be no increase.

My Lord, Lloyd's, 20 December 1850.

I HAVE the honour to acknowledge the receipt of your Lordship's letter of the 14th instant, requesting, by direction of the Transatlantic Packet Station Commissioners, that the Committee of Lloyd's will favour the Commissioners with information relative to the

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Appendix.

difference of premium on vessels making voyages between Liverpool and the southern and western ports of Ireland and North America, and *vice versâ*.

I am instructed by the Committee to state to your Lordship in reply, that other circumstances connected with the risks in question being generally the same, there would be no difference of premium as regards the respective voyages.

I have, &c.

The Right Hon. Lord Hobart, &c. &c. &c.
Board of Trade.

(signed) *Geo. A. Halsted,*
Secretary.

No. 20.—Evidence of Captain *R. B. Beechey*, 25 June 1852—*continued.*

Q. If you were in command of a steamer drawing 19 ½ feet water off Brandon Head, would you have any hesitation in running for the Shannon in a gale of wind at night or in thick weather?—*A.* Certainly not, provided I could discern the lights by night five miles off, or the lighthouses by day two or three miles off, but I should, if possible, choose the flood tide to run in with, as the ebb causes the sea to break very heavily, particularly on the north shore.

State the best anchorages for a large steamer in the Shannon?—Carrigaholt, Scattery Roads, Tarbert, Laha Sheede, and Foynes; above that she would ground at low water.

What is the nature of the anchorage at Carrigaholt?—With the wind from the westward or north of that it is sheltered from both wind and sea, but it is much exposed to the south-west, and a heavy sea in a gale from that quarter rolls in; the holding ground where a large vessel would lie is far from good; it is quite open to an easterly gale.

Have you ever known vessels to drive from Carrigaholt?—I have often heard that they did, but more frequently that they ran out of it at the approach of or during bad weather, and made for Scattery Roads or Tarbert.

Do the westerly gales blow with as much force up the Shannon as they do outside?—If anything, I should say they did, or even more, the river acting as a sort of funnel.

In westerly gales how far up the Shannon does the heavy sea or swell extend?—As far as Beal Bar, and with the ebb tide (particularly, of course, at springs) it breaks dangerously from that to some distance beyond Loop Head.

What wind sends the heaviest sea into the Shannon?—That from the westward.

In a westerly gale in thick weather, or at night, would you have any hesitation in running up the Shannon?—Yes, unless I could see at least a mile I decidedly should, as the shoals extend for a considerable way (more than half a mile) off Scattery Island and Carrig Island opposite to it; but having cleared these, there would be no difficulty, by keeping the middle of the river all the way up to Foynes Island.

What sort of an anchorage is Scattery Roads?—Very superior to Carrighaholt; there is no heavy swell, and the holding ground is good, although there were several vessels driven out of it and wrecked in the gale of January 1839; but this was likewise the case with several more at Tarbert.

Is Tarbert a safe anchorage, and would there be any objection to the construction of a harbour there for the accommodation of the packets from the set of the tides or other reason?—Tarbert may certainly be considered a safe anchorage for vessels of any size, affording good shelter from the prevalent strong winds. The chief objection to it is the strength of the ebb tide and its exposure to the east, which, though not generally of sufficient importance to endanger any vessel, yet render the communication with the shore difficult and hazardous. There was a pier there when I was there, which was used by the steamers running to Kilrush, but something much more extensive and better sheltered than that would be required for the American packets; and could such be constructed (of which I have little doubt), I should consider Tarbert as the place in the Shannon the best adapted for the packet station. This is, of course, only in a nautical point of view, but unless such were constructed Tarbert would not answer for a station, for I consider it absolutely necessary that the packets should lie alongside a quay to take in passengers and goods, and that that quay should be well protected.

If a pier were constructed at Tarbert, would it require to be protected against the easterly winds?—Certainly.

What do you think of Foynes Harbour as a station?—No harbour could be more sheltered from all winds; but unless it has been deepened in the shallow parts since I was there in 1841, I should fear it is much too small for large steamers. The entrance from the west is very narrow, so much so that it would be necessary to erect two leading harbour lights, one on Barneen Point, on the island, and one on the Main beyond, or else have the light on the point so arranged that it would only show in mid-channel the same as the one at Kinsale, and then have a mark beyond, for the day time, where Durnish House is at present. The other entrance is too shallow for vessels of any size, there being only seven or eight feet at low water. In the event of the Shannon being selected for a station, I should consider it necessary to have a light-vessel off the Island of Scattery, on account of the shoals off it.

(signed) *Richard B. Beechey,*
Commander, R. N.

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No. 21.—*Thomas Fitzgerald*, Esq., Q. C., 6 July 1852.

Q. If Tarbert were to be appointed the packet station, have you any remarks to offer on the proposed connexion of that port with the railway to Dublin?—*A.* I would propose a direct line from Tarbert to Kilmallock; there is a dead flat the whole way; no engineering difficulty that I am aware of, but it has never been surveyed to my knowledge; in any event Limerick ought to be connected in a straight line of railway with Kilmallock.

Are you well acquainted with Tarbert?—I am, I have resided there many years.

In what part of Tarbert would you propose the construction of works for the uses of the packets, and of what nature would they be?—I would throw out a pier from Tarbert Island, either at or near the present steam boat pier, sufficient for the use of a transatlantic steamer, and would run out another pier for a similar purpose, at the eastern extremity of the harbour, at the point called on the chart before me Ballydonoghoe Point; I would thus ensure the harbour being made available for the landing of the passengers and embarkation in any weather; depending solely on one pier at Tarbert Island might, although perhaps very seldom, render the harbour not available for embarking and landing in very strong easterly winds.

What winds make the most sea in Tarbert?—A strong east-north-east wind.

Can you furnish any information as to the foundation necessary for such works as these?—Ballydonoghoe Point is hard, but some part of the Slob, half a mile to the westward of that point, is a bog, and oak trees have been taken out, but I have no knowledge of the Slob off Tarbert Island.

In the event of Tarbert being chosen as a packet station, do you think the pier you propose at Ballydonoghoe Point would be preferable to a basin off Tarbert Island?—I do not, I think a basin off Tarbert Island would be preferable, but considerably more expensive.

Do you not think a pier run out from Ballydonoghoe Point would cause the roads of Tarbert to silt up on either side of it?—You already have the mud till you get to deep water; the eastern side of this pier would be kept clear by a strong stream running between Ballydonoghoe and Court; the mud at the westward is of a sticky adhesive nature, very much approaching to land, and not in my opinion likely to be affected in such a way as to make it interfere with the channel, into which channel, of course, the pier would run a considerable way.

Is the sea in Tarbert Roads ever so heavy as to be injurious to a pier constructed upon piles?—I would say decidedly not, if the pier did not extend beyond a straight line drawn from Tarbert Lighthouse to Shannon Lodge Point, or within a quarter mile of the present low-water mark.

Which do you think would be preferable as a packet station, Foynes or Tarbert?—Tarbert for the advantage of the splendid roadstead; but for the mere purpose of landing and embarking mails and passengers, I think Foynes would be a very good packet station.

Do you know any objection to Foynes Harbour?—It is too narrow for a large vessel to swing at her moorings at low water.

But if vessels were to be moored head and stern, or lie alongside a pier, would that remove your objections?—I think a vessel properly moored head and stern, or having a pier appropriated to her, would remove my objection.

Have you ever found the tide so strong in Foynes as would make it inconvenient for large steamers to moor head and stern or to come alongside the pier?—I have not, but I have never been in Foynes Harbour in a vessel of that class; at the same time I think the tide is not so strong as to be inconvenient to such large steamers.

SHANNON:

13. There would be no difficulty whatever in small steamers going alongside to embark and take out passengers; and at a very trifling expense the river up to Limerick could be made available at all times of tide and in all weather for these small steamers.

(signed) *Thos. Fitzgerald.*

No. 22.—To the Transatlantic Packet Station Commissioners.

Gentlemen, Sunville, Pallas Grean, 6 July 1852.

WITH this I send you a general estimate of the cost of constructing a railway from the city of Limerick by the harbour of Foynes to Tarbert.

I have, &c.

(signed) *Thomas Kearney.*

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Appendix.

GENERAL ESTIMATE of the Cost of Constructing 34 Miles of Railway from the City of *Limerick* to *Tarbert*, in the County of Kerry, by the Harbour of *Foynes*; the Land, Earthworks, and Masonry to be for a Double Line, and a Single Line of Rails only to be laid down.

	£.	s.	d.
1. 204 statute acres, or 126 plantation acres of land, at an average of 40 *s.* per plantation acre for 25 years	6,300	–	–
Injury by severance, &c.	3,150	–	–
	9,450	–	–
2. Average cost of forming and fencing the line, including all earthworks, &c, at 1,380 *l.* per mile	46,920	–	–
3. Masonry in bridges over rivers, road crossings, &c., at 550 *l.* per mile on an average	18,700	–	–
Masonry in sea-wall along 3½ miles of the Shannon between Foynes and Tarbert	10,000	–	–

4. 110 tons of iron per mile in a single line of rail, at 6 *l.* per ton (the rail to be 70 lbs. per yard)	£.	s.	d.
	660	–	–
30 tons of chairs, at 5 *l.* per ton	150	–	–
1,760 sleepers, at 4 *s.* per	352	–	–
Laying down rails and sleepers, per mile	80	–	–
Ballasting, one mile	160	–	–
Total cost of one mile of single rail	£. 1,402	–	–
34 miles of single rails, at 1,402 *l.* per mile			47,668 – –
Station houses, farm gates, &c.			3,600 – –
TOTAL Cost			£. 136,388 – –

Or £. 4,011. 8 *s.* 3 *d.* per mile.

(signed) *Thomas Kearney.*

No. 23.—Answers Applicable to the SHANNON, *C. R. Johnson*, Commander, R. N.

1. No hesitation.
1 (*b*). I should find Loop Head before I tried it; otherwise too great a risk.
2. Between Corlish Point and Scattery Island, in eight fathoms mud. Scattery Roads, Tbert, and above Tarbert, all is good anchorage, in eddies, and of course water for your draught.
3. Safe for vessels not over 10 feet draught, close in out of tide. Vessels drawing 19 ½ feet, I think, had holding ground, and tide very strong.
4. Yes, with loss of all anchors.
5. Occasionally.
6. Gradually from Loop Head to Carrigaholt.
7. West to south-west, but there we call it tide trips.
7 (*b*). I have often seen overfalls (caused by ebb tide and south-westerly gales) break heavily.
8. I never would do so without making out the lights at least one mile off. Wind does not interfere with navigating the Shannon in steamers.
9. I consider and found it very good.
10. Such large steamers would be in a great tideway, but no fear of dragging; easy enough to construct docks, but would rapidly fill up with mud.
11. I think not; the tide makes Tarbert smooth in the eddy at all times.
12. Not suitable.
13. Yes.
14. Foze Rock.

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— No. IV. —

LETTER from Captain *Beechey*.

Sir, London, 4 August 1852.

I HAVE the honour to forward to you, for the information of the Lords Commissioners of the Admiralty, the enclosed letter from Captain H. Smith, who is desirous that they should be in possession of his reasons for differing from the rest of the Committee upon one part of the Report upon the Irish Transatlantic Packet Station.

I beg to observe that except at the special request of Captain Smith I should not have considered it necessary to lay this letter before their Lordships.

(signed) *W. Beechey*, Captain,
The Secretary of the Admiralty. Chairman of the Committee.

Having commanded a transatlantic mail packet for three voyages, and during that service obliged to land and receive mails and passengers at all times of the night and weather, some places miles from the coast, and this during the hurricane months and northers in the West Indies, and the Gulf of Florida, as well as running along the east coast of America from New Orleans to Halifax, touching at the intermediate ports, South Georgia and Charles Town, being bar harbours, the mails and passengers were obliged to be landed and taken on board in schooners, whatever might be the state of the weather. From the experience gained whilst in that service, I do not hesitate to say that the navigation of one of Her Majesty's ships and a mail packet are quite different services. The packet has to do at all seasons what one of Her Majesty's ships would only do when charged with the most important despatches or pushing in during a fog, or thick and heavy weather, to relieve a blockaded port, or to give information of the greatest importance; consequently it is my opinion therefore, after seeing the approaches to the Shannon, and examined the chart carefully in the neighhourhood of the Blaskets and Brandon Head, as well as from the testimony of the witnesses on the capabilities of the ports in the Shannon, that it is probable the mail service would be carried out from the Shannon with the same regularity it has been conducted by the Cunard Line. They generally make Cape Clear exposed to gales from south-east to west-south-west, the points from which the heavy gales and thick weather commence; in such weather, running for the Shannon, once to the eastward of the Blaskets, you have smooth water and a bold shore, whilst a steamer making Cape Clear is exposed to the fury of the gale; should the wind be to the north of west, the chances are the weather would be clear.

The decided advantages of the Shannon are,

1. That having made your landfall, you have your port close at hand, without any intricate navigation or any outlying dangers more than a half of a mile off, or threading your way up channel, whatever may be the state of the weather.

2. You can go to sea let the weather be ever so thick, or if blowing when a ship can put to sea, and you are at once on the broad Atlantic without the risk of collision or getting on shore, which has been the case from Liverpool.

3. The shortening of the voyage by 300 miles would make a considerable difference in the passage, as the steamers would not require to be so deeply immersed from either starting point.

The disadvantages are,

1. The soundings it is true are not of that guiding description of the English and Irish Channels, but sufficiently good to warn a careful seaman in a fog or very thick weather when to round to.

2. The boisterous weather and heavy seas on the west coast of Ireland; as the Cunard steamers return sometimes north about, surely they must en-

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Appendix.

counter the same seas and weather until they get to the eastward of the north-west and south-west points of Ireland.

3. Thick misty weather and fogs. In carefully going through the evidence, I find the strongest against the west coast of Ireland is William Williams, master of the "Rhoda," of Milford, who considers it a wild coast; worse than the English Channel or Cardigan Bay, and more misty. Commander Richard Beechey, R. N., says, after 15 years' experience, May and September are the finest months in the year; in these months the few fogs which are met with on this coast occur, for I consider it very free from such as compared with the eastern coast. Gales almost always begin from the south or south-east, with thick, mizzly rain, and after expending their greatest force from the south-west, veer round to the north-west, and ends in strong breezes, accompanied by squalls; the density of the mist varies considerably, at times allowing of your seeing four or five miles, and at others not more than one.

The evidence of Mr. Jenkins, master of the "European," is also favourable, who would prefer running his steamer, if she sailed from America, for the Shannon than Southampton.

If I could see a mile by day or two by night, I should fearlessly run, taking every necessary precaution that a wary seaman would.

The above are Captain Smith's reasons for dissenting from his colleagues, Captains Beechey and Caffin, R. N.

(signed) *Hy. Smith*, Captain, R. N.

Remarks.—The advantages and disadvantages above mentioned, numbered 1, 2, 3, and 1, 2, 3, neither Captain Caffin nor myself have disputed; our objections to the coast consist principally in the difficulty of making a landfall in all weathers, not after the landfall is made, as supposed, or rather expressed above in reason No. 1.

(signed) *W. Beechey.*

— No. V. —

LETTER from Captain *Beechey.*

Sir, London, 21 August 1852.

I HAVE the honour to forward a communication from the Harbour Commissioners of Limerick, enclosing a report of Mr. Long, C. E., on the nature of the shore at Foynes, and request their Lordships will be pleased to permit these documents to be added to the reports of the Committee lately appointed to inquire into the merits of the Ports of Galway and Limerick.

I also request you will be pleased to bring under the notice of their Lordships that part of the letter of the Harbour Commissioners which refers to Messrs. Rendall & Walker, Civil Engineers, in the propriety of which the Committee fully concur, should the Government wish for any information on the formation of works connected with a packet station at either Galway or Limerick.

I have, &c.

The Secretary of the Admiralty. (signed) *T. W. Beechey*, Captain.

Harbour Commissioners' Office, Limerick,

Sir, 16 August 1852.

I AM directed by the Limerick Harbour Commissioners to forward you the accompanying report of their engineer, detailing the result of the borings made at Foynes Harbour, with a view to the extension of the present pier there, as desired by your commission of inquiry when at Limerick.

In

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In forwarding this information I have the gratification to state that since your visit to Limerick communications have been received by the Harbour Commissioners from the Ballast Board at Dublin, conveying the assurance that that Board (which is analogous to the Trinity Board at London) has undertaken to erect all buoys and beacons that may be necessary to perfect the navigation to the Harbour of Foynes, and that some of the beacons have been already sent from Dublin for this purpose. This undertaking, on public grounds, by the Board charged with the lighting of the whole Irish Coast and Harbours, and by funds derived from the shipping of all nations, gives the fullest guarantee that everything that may be necessary to point out Foynes more conspicuously to the mariner, and to render it a haven of the safest approach and egress, will be executed in the most satisfactory manner, and without delay.

The Harbour Commissioners are deeply anxious that the information elicited by your commission should be as complete and comprehensive as possible, and they therefore desire me to put before you the names of Captain Jerningham, R. N., and Captain Ommaney, R. N., as officers eminently calculated, by their experience on the west coast of Ireland, to afford valuable information for your object. Both these officers at present fill official positions in the service, and as their evidence can he readily obtained in London, the Harbour Commissioners trust that you will not fail to avail yourselves of it before adopting your report.

The Commissioners also desire to observe that while they feel satisfied that the nautical portion of the inquiry could not be entrusted to abler hands than those of yourself and your colleagues, they are yet strongly of opinion that the respective merits of Galway and the Shannon, as western packet ports, are closely interwoven with the consideration of the extent, practicability and expense of such works as may appear to he required at each, and they therefore respectfully suggest that competent engineering opinions should be had on this part of the subject.

A peculiarly favourable opportunity presents itself now to obtain this opinion, as it is understood that Mr. Walker, C. E., and Mr. Rendall, C. E , are about to visit Ireland on another inquiry of much public importance, and the Harbour Commissioners would earnestly urge that they should be instructed to report to your Commission on the engineering portion of your inquiry.

I have, &c.

Captain Beechey, R. N., (signed) *John Roche*, Secretary.
Board of Trade, Whitehall, London.

Sir, Limerick, 12 August 1852.

I BEG to state that I have completed the borings made in accordance with your letter of the 12th ultimo, to ascertain the practicability of building a line of quays, having 20 feet in depth alongside at low water.

According to these borings, a stratum of shingle apparently intermixed with clay exists, without the intervention of rock, for a sufficient depth to admit of a quay wall being huilt at the depth required, and also admitting of the quay being set back about 60 feet from the low-water line at the western rocky point where the salmon fishery stands. The dotted line in red upon the accompanying chart* marks the direction in which the borings were made, and they indicate that the hard strata dips helow the level of 20 feet under low-water at the point A, which may be regarded as the termination of the quay wall at this end.

In making these borings, I have taken the opportunity of considering the practicability of providing the required accommodation farther to the eastward,

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* Plan, No. 10.

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Appendix.

eastward, and from the inquiries I have made, it does not occur to me that there are any grounds for apprehension of an exposure in this direction. It should be kept in mind that Foynes is in a tideway some 40 miles from the sea, where no swell can arise, as on the coast, that could at all inconvenience a vessel inside, where also the harbour is almost surrounded by high land; besides, the strong wind seldom blows in this direction, and the comparatively moderate depth of water outside, with the shoaly points running out on each side, would not admit of a swelling sea even in stormy weather. Under these circumstances, the arrangement proposed by the harbour-master would probably be the most suitable, namely, a floating stage connected with the present pier, that would rise and fall with the tide; and if necessary afterwards others might be added more to the eastward. By this arrangement no interference would occur with the tidal current, and the accommodation would be speedily provided, and at a moderate expenditure.

I am, &c.

(signed) *John Long.*

The Secretary
Limerick Harbour Commissioners.

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PLAN X

GALWAY
HARBOUR

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Plan N° 3

J. Arrowsmith lithe N° 22 Ordered, by the House of Commons, to be Printed, 24 Nov^br 1852 Henry Hansard, Printer.

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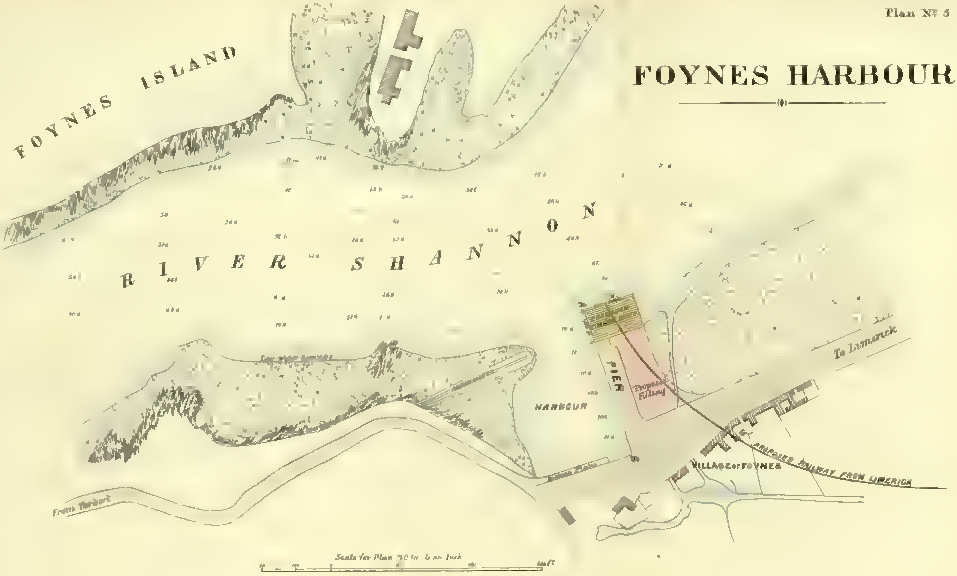
Plan N° 5

FOYNES HARBOUR.



ELEVATION OF EXISTING PIER AND PROPOSED TIMBER JETTY IN EXTENSION ON LINE A B

Barry D Gibbons
Harbour Engineer
Public Works
15 July 1852

J. Arrowsmith, Lith. N° 52 Ordered by the House of Commons to be Printed 5 Nov.r 1852 Henry Hansard, Printer

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PLAN N°6

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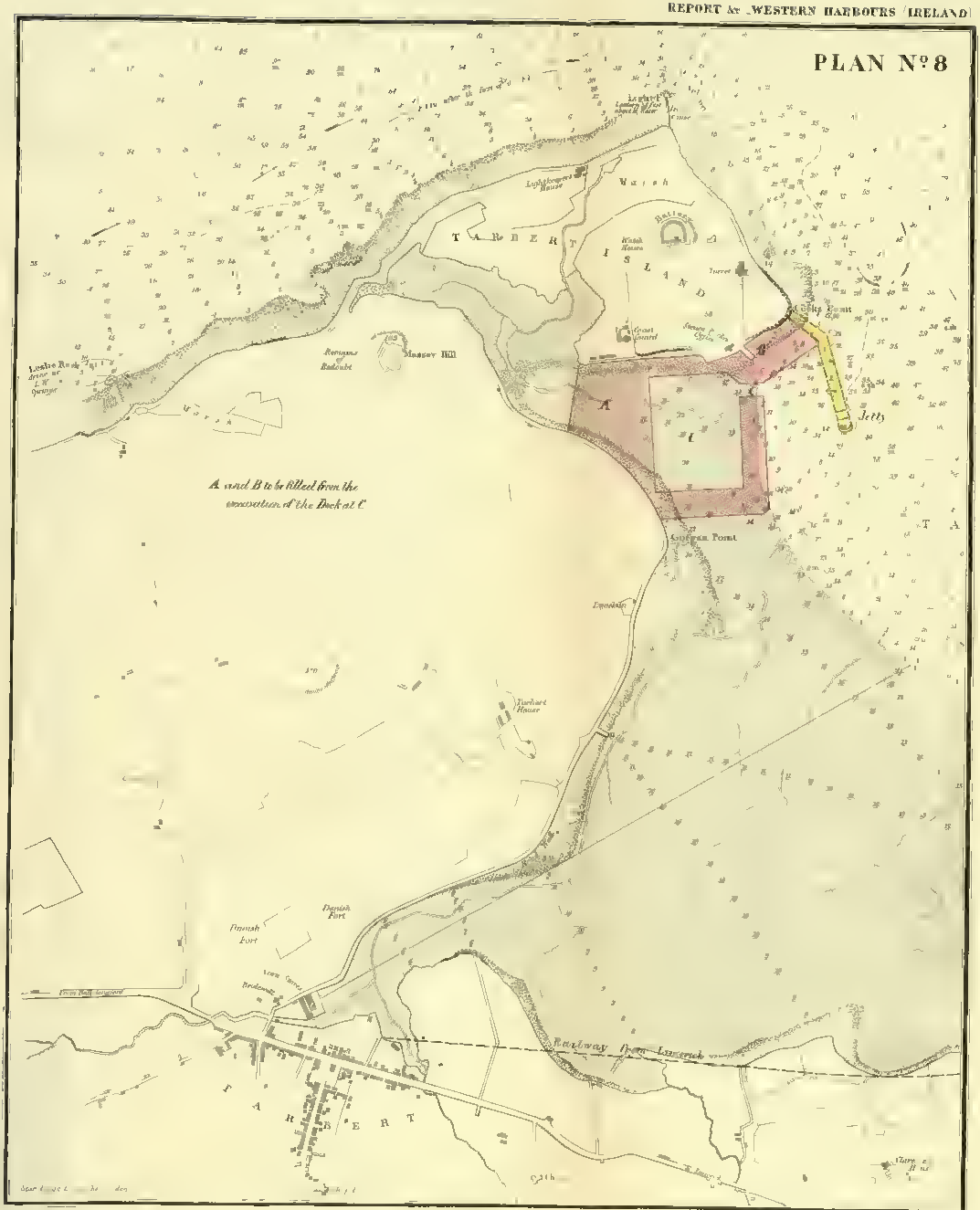

No. 22 Ordered by The House of Commons to be printed 7th November 18..

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Plan N° 9.

Tracing of Part of Commander J Wolfes Chart of the Tarbert Roads on the lower Shannon in Ireland surveyed in 1841 for the Shannon Comm^rs Shewing the site of a Pier proposed to be Built in 1852

Henry Stokes,
C^o Surveyor
Tralee. 19^th July 1852

TARBERT
⚓
ROAD

J Arrowsmith Lithº N° 22 Ordered by the House of Commons to be Printed 24 Nov^ber 1852 Henry Hansard, Printer

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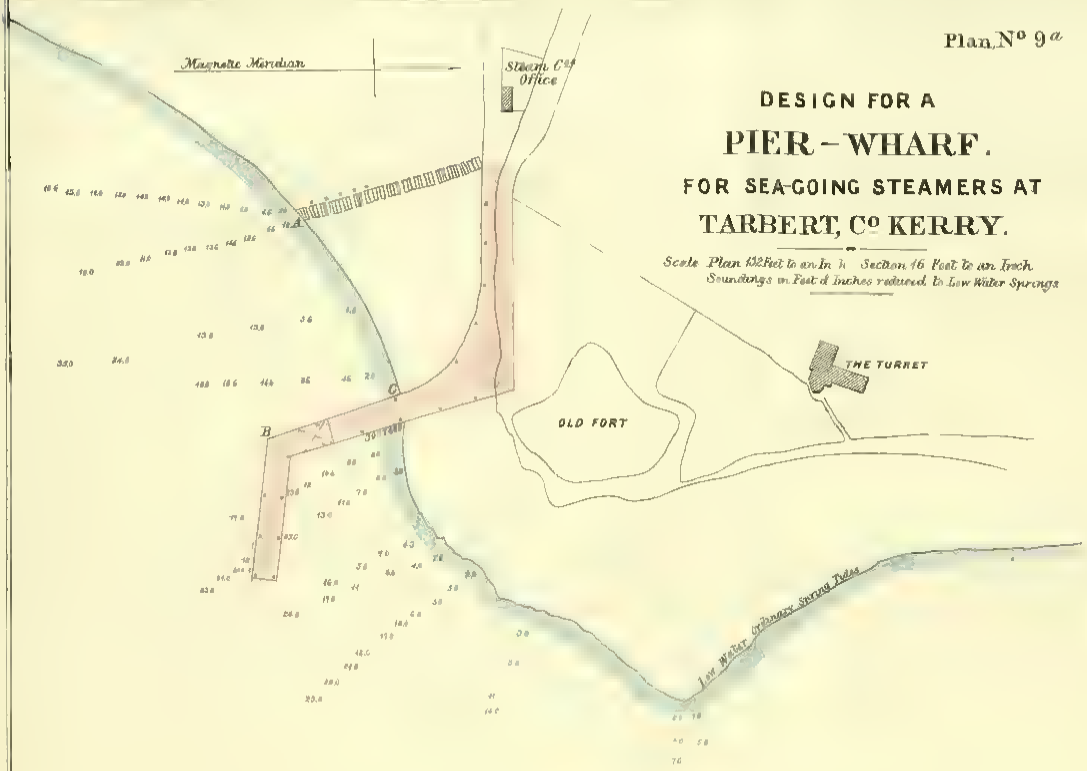
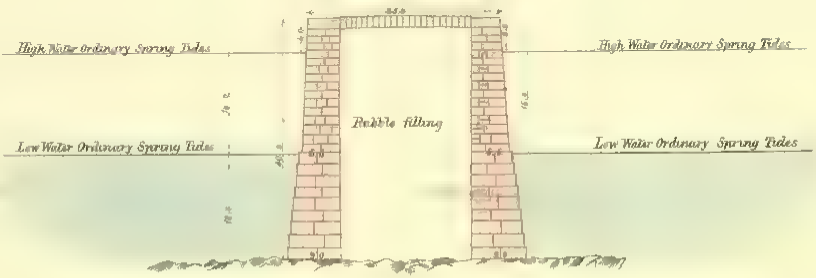
Plan N° 9a

DESIGN FOR A
PIER-WHARF.
FOR SEA-GOING STEAMERS AT
TARBERT, Co KERRY.

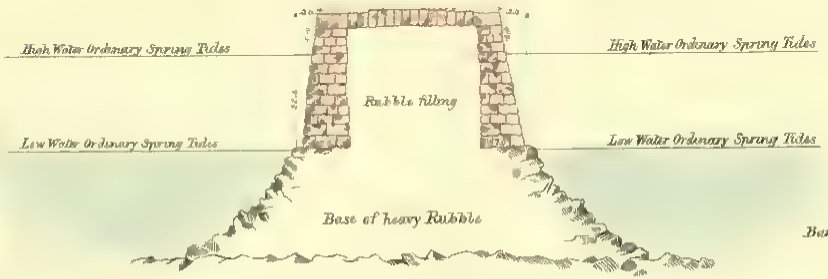
Scale Plan 132 Feet to an Inch Section 16 Feet to an Inch.
Soundings in Feet & Inches reduced to Low Water Springs



TRANSVERSE SECTION N° 1


High Water Ordinary Spring Tides
High Water Ordinary Spring Tides
Rubble filling
Low Water Ordinary Spring Tides
Low Water Ordinary Spring Tides

TRANSVERSE SECTION N° 2


High Water Ordinary Spring Tides
High Water Ordinary Spring Tides
Rubble filling
Low Water Ordinary Spring Tides
Low Water Ordinary Spring Tides
Base of heavy Rubble

Barry D Gibbons
14 May 1852

J Arrowsmith, Lithr
N° 22 Ordered, by the House of Commons to be Printed 24 Nov 1852
Henry Hansard, Printer

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WESTERN HARBOURS (IRELAND).

COPY of the REPORT and EVIDENCE taken before the Commission appointed to Inquire into the Merits of the Western Harbours of *Ireland*, for the Purpose of TRANSATLANTIC COMMUNICATION.

(*Mr. Henry Herbert.*)

Ordered, by The House of Commons, *to be Printed,*
24 *November* 1852.

[*Price* 5 *s.*]

22.

Under 20*oz.*

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